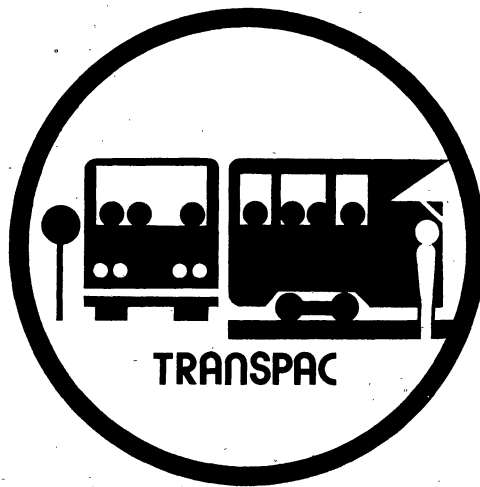


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Recommendations for the Transpac Program



New Jersey Department of Transportation

May 1979

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RECOMMENDATIONS
FOR THE
TRANSPAC PROGRAM

MAY 1979

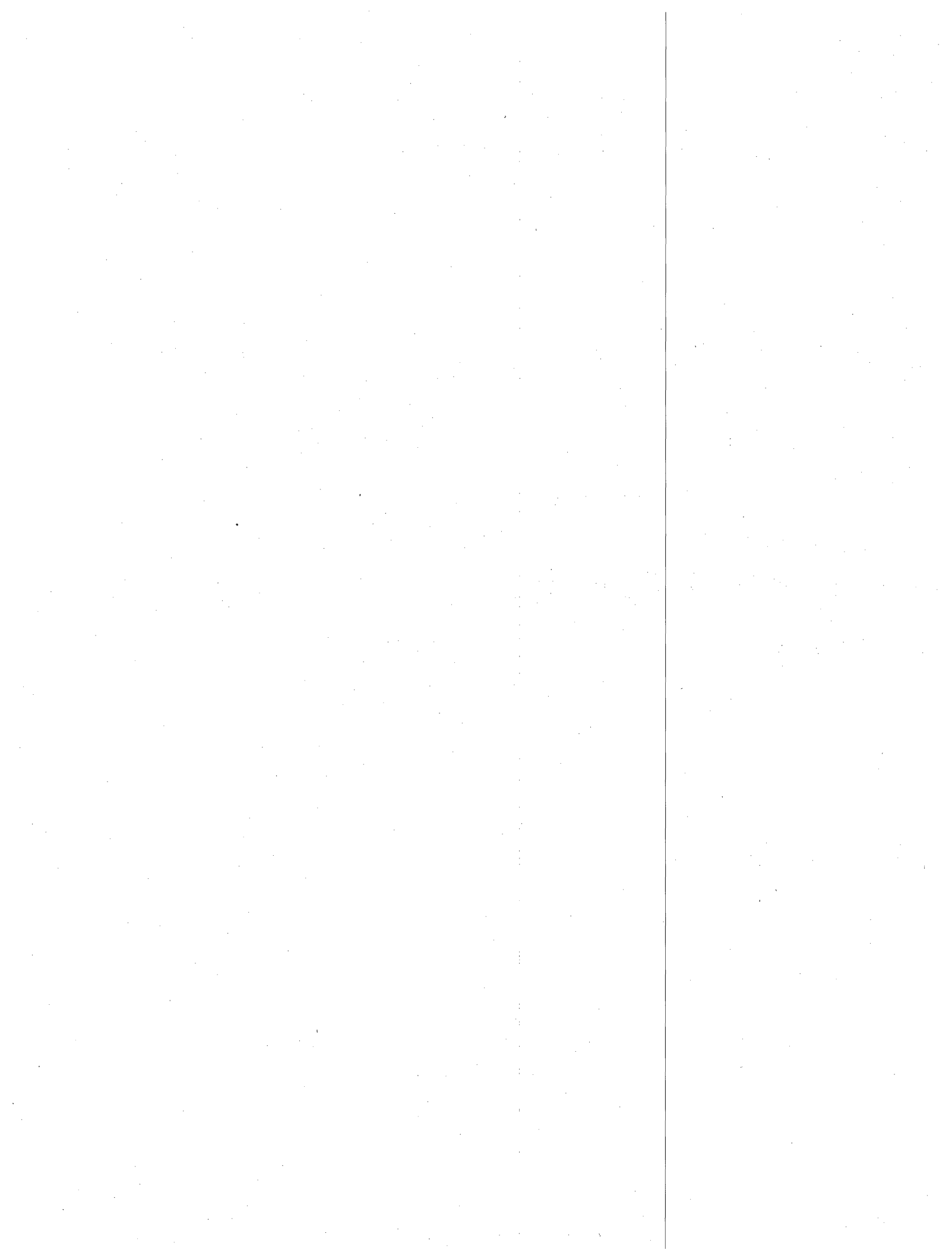


TABLE OF CONTENTS

<u>Chapter</u>		<u>Page</u>
I.	INTRODUCTION	I-1
II.	PROJECT EVALUATIONS	II-1
	Evaluation Matricies, Definitions	II-1
	Priority I Projects - Projects required for the Continuance of Essential Services at Current Levels of Service	II-6
	Priority II Projects - Projects Required to Complete Capital Improvement Efforts that Have Been Initiated	II-11
	Priority III Projects - Low Cost User Oriented Projects	II-15
	Priority IV Projects - Low Cost Operations Oriented Projects	II-22
	Priority V Projects - Moderate Cost Projects of Significant Benefit	II-26
	Priority VI Projects - High Cost Projects of Significant Benefit	II-36
III.	RECOMMENDATIONS FOR THE TRANSPAC PROGRAM	III-1
<u>Appendix</u>		
A.	Project Descriptions	
B.	Projects Not Formally Evaluated Due to Lack of Development	
C.	Methodology and Criteria for ranking Capital Projects in the Development of Transpac	
D.	Explanation of Changes in Projects Considered in the "Preliminary Recommendations for the Transpac Program" Draft Report, March 1979.	

CHAPTER I

INTRODUCTION

Following an agreement in principle between the New Jersey Department of Transportation, the Port Authority of New York and New Jersey, and the United States Urban Mass Transportation Administration concerning the funding of a \$600 million New Jersey mass transit capital improvement program, an NJDOT task force was established to:

- a) Identify the mass transit capital improvement needs for the State from existing studies and reports.
- b) Evaluate the identified projects for inclusion in the \$600-million transit package (Transpac), based on existing data.
- c) Formulate a preliminary recommended program based on those evaluations.
- d) Present the preliminary program to state and local officials and the public to obtain their input.
- e) Prepare a recommended program considering those inputs.

The preliminary recommended program was presented in a draft report entitled "Preliminary Recommendations for the Transpac Program", March 1979. It was distributed to all County Planning Boards/Boards of Public Transportation, Metropolitan Planning Organizations (MPO's), Small Urban Area Planning Studies and other concerned parties for review and comment. Regional public meetings were held on the preliminary recommendations at: Newark, March 27, 1979; Camden, March 29, 1979; Somerville, April 3, 1979 and; Manasquan, April 4, 1979.

Considering the public inputs and new technical information received, the recommended program was developed and is presented in this final report. It is in the same format as the March, 1979 draft, using updated project data as applicable, and with a section relating to public input added to Chapter III (Recommendations). Also, an additional appendix, "D", explaining changes made to candidate projects since the draft report has been added.

Identification of projects which had previously been studied or at least the needs of which had been quantified revealed over \$2½ billion in quantifiable projects. Other projects not yet quantified, because studies of these projects have either not been completed or initiated, were also identified. Detailed descriptions, along with presentations of benefits, disbenefits and status, of quantifiable projects are presented in Appendix A. Descriptions of major non-quantifiable projects, that therefore were not considered for Transpac, are presented in Appendix B. To assist in the geographical identification of rail projects, Figure 1 presents the existing rail network in New Jersey.

**NEW JERSEY
PASSENGER
RAILROADS**

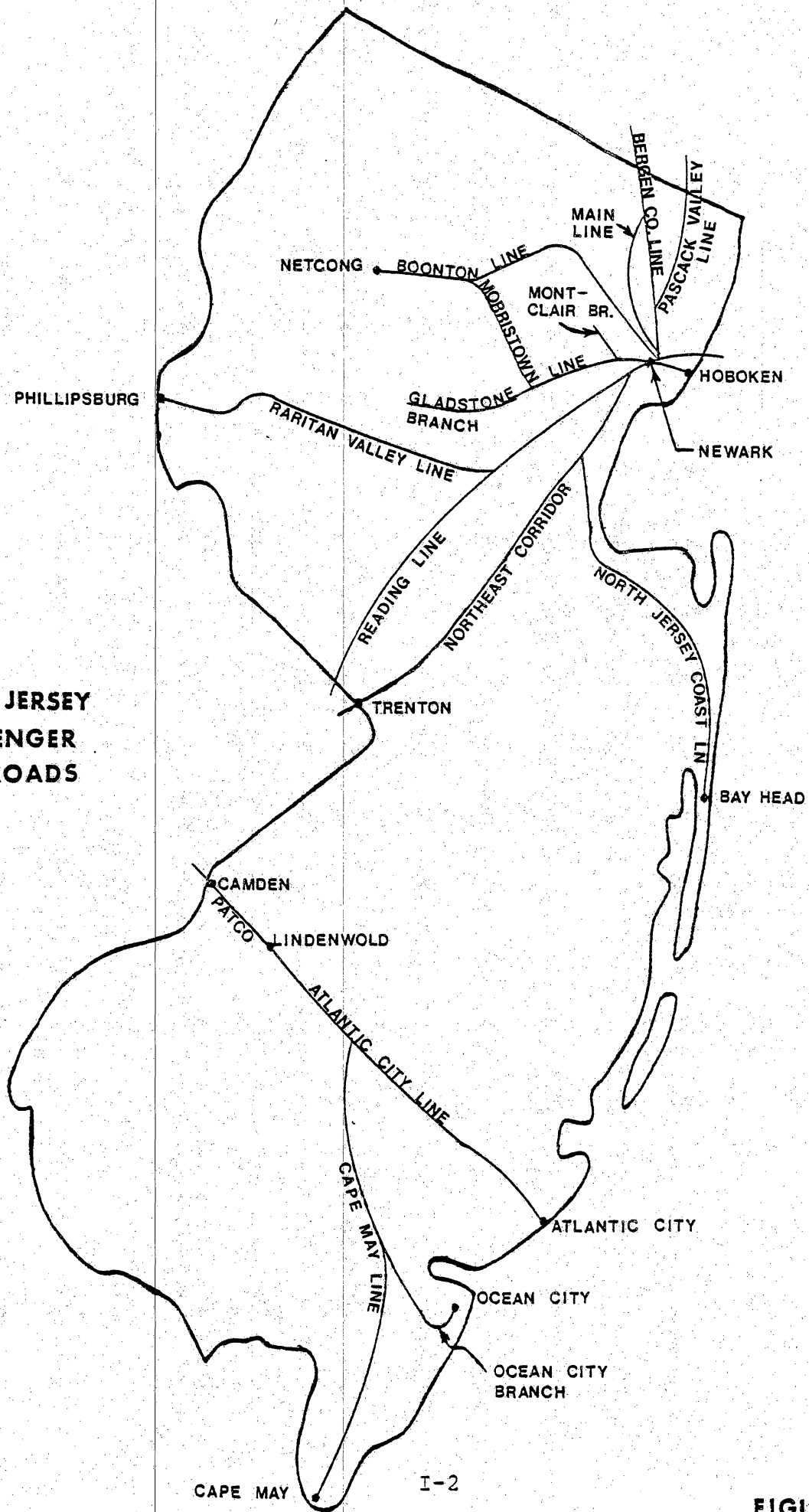


FIGURE 1

In order to properly evaluate and prioritize projects, a rational evaluation process was developed based on short range improvement policies established by the Department of Transportation. The procedure had to be developed with the thought that there were severe time constraints and a wide variety of projects to be considered. Typically, each project had varying types and levels of available data associated with it. Thus, comparison of projects on a strict hard data basis was, at many times, impossible. To deal with this situation a set of priority groups was established based on the short range improvement policies. The policies were:

- 1) Preserve and maintain (as justified) service, equipment and facilities of the existing bus and rail systems.
- 2) Improve those services first which will have the greatest immediate real benefit at the most reasonable costs.
- 3) Construct those projects first that are justified, committed and can be implemented in the shortest period of time within budgetary constraints. The implementation time frame for the Transpac program was taken as 1979-85.

The order of corresponding priority groups established for evaluation purposes (highest priority first) are:

- I. Projects required for the continuance of essential services at current levels of service.
- II. Projects required to complete capital improvement efforts that have been initiated.
- III. Low cost, user oriented projects.
- IV. Low cost, operations oriented projects.
- V. Moderate cost projects of significant benefit.
- VI. High cost projects of significant benefit.

It should be noted that during the initial development of project priority groupings, the second priority was identified as, "Projects mandated by federal and/or state laws or regulation." This category or grouping appears and is discussed in Appendix C, which deals with the development of criteria and methodology for project evaluation. However, it was found that all identifiable projects falling into the priority group would be funded through sources external to Transpac. Therefore, to avoid confusion, the priority group has been omitted from treatment in the body of this report.

Projects being evaluated were assigned their respective priority categories based on the basic nature of each project. For example, rehabilitation of stations is a Priority I project. With regard to Priorities I, and II, the absolute need for these projects in order to continue service and the magnitude of funding availability did not require further ranking of those projects within the priority categories.

For the lower priorities (III thru VI), projects were further ranked numerically within each priority category based on available data. The ranking is based on costs, benefits, disbenefits, consistency with short range improvement policies, availability of funds from other sources, maturity of project development, and in the case of Priorities V and VI, furtherance of long range policy goals. These goals include:

- . Stimulate urban center redevelopment.
- . Effect major auto diversions and reduce adverse environmental impacts.
- . Assist the mobility of transit dependents.
- . Encourage and support efficient land use.
- . Reduce travel time and cost.
- . Increase safety, convenience and comfort.

A series of matrices contained later in this report show the results of this process and accompanying narratives explain in detail the reasoning employed.

It is recognized that lower ranked projects contained in priorities (III thru VI) should not necessarily precede highly ranked projects in subsequent priorities. This is especially true, where the lack of development of a project precludes a fair evaluation of the project in relation to those in lower priority categories. Therefore, the final step was to eliminate those projects from consideration that were in need of a high degree of further development or of marginal benefit and to directly compare borderline projects from different priority groups to arrive at a final overall prioritized ranking of projects. Based on this process and considering public and official inputs, the recommendation for the composition of Transpac was derived. The recommended program will be the subject of formal public hearing prior to submittal of the grant application to UMTA. A detailed explanation of the methodology and criteria is contained in Appendix C.

It should be noted that the project costs which are indicated in this report are generally preliminary planning budget estimates, i.e., they are order of magnitude estimates based on gross milestone schedules.

CHAPTER II

Project Evaluations

This chapter presents the results of the project evaluation process, with respect to the ranking of projects within the six priority groupings, outlined in the introduction and detailed in Appendix C. It includes treatment of all projects that were formally evaluated for inclusion in the Transpac program. It should be noted that all public transit projects that were identified were not formally evaluated. First, a number of projects in advanced stages of development were found to be already scheduled for funding outside of Transpac, e.g. state appropriations to quickly move low cost environmentally mandated projects, low cost FAUS projects, etc. Second, certain projects were identified but eliminated prior to this step due to insufficient project development/information. Projects in the later group are discussed in Appendix B.

Evaluations associated with each priority group are presented independently. Results for each group are prefaced by an evaluation matrix indicating final project ranking within the priority and showing selected project data and impacts. An explanation of the contents of, and nomenclature utilized in, the matrices precedes the first priority group. Each matrix is followed by narrative material discussing key reasons for a project's final ranking relative to the other projects in the group. For Priorities I and II, projects are discussed on an aggregate basis, since projects in these groups were not ranked. Narratives for the remaining priority groups are given on a project by project basis for clarity. The project narratives are arranged in a sequence of highest to lowest ranking within a group. For reference purposes, the project descriptions contained in Appendix A are arranged in the same order. It has not been attempted to present all possible data that was obtained for each project. It should also be noted that the data presented in the matrices does not necessarily of itself totally indicate why a project received a particular rank. The matrices must be used in conjunction with the subsequent narratives to arrive at a complete picture of why particular ranks were determined.

Evaluation Matrices, Definitions

Tables I through VI present final project rankings within the priority groupings, with the exception of Priorities I and II. All projects within these first two priorities are considered of high rank and not rated against each other. For the remaining priorities (III thru VI) projects are ranked on an alpha-numeric basis. The numerical values indicate order of ranking within the priority, i.e., "1" being highest, "2" second highest, etc. However, the numerical ranks in themselves do not provide information as to the projects absolute worth, especially in terms of at what point projects in following priority groups should be considered for inclusion in Transpac. It is not intended that all projects in a given priority group must necessarily be included, as far as funding allows, before proceeding to the next priority. Therefore, alphabetical designations were also assigned to indicate priority relationships among projects in all priority groupings. These alphabetical designations are as follows:

- "A" - All "A" ranked projects are recommended for inclusion in Transpac on the basis that they demonstrate a high degree of benefit relative to cost or are of critical nature. All projects within Priorities I and II are considered to have a "rank" of 1A. With respect to relative priority among "A" projects, if funding constraints would not allow accommodation of all "A" projects in the program, higher priority groups have precedence over lower groups and projects of higher rank within a priority group have precedence over lower ranked projects in the group.
- "B" - Projects of lower demonstrated benefit relative to cost and not of a critical nature and/or projects requiring a degree of development. They are recommended for inclusion in Transpac only after all "A" projects are accommodated or if one or more "A" project(s) cannot be included due to funding constraints and a lower cost "B" project could be fit in. "B" projects have precedence within their own priority group according to numerical rank. Projects in higher priority groups generally have precedence over projects in lower priorities. However, in the case of priority groups III and IV (low cost user and low cost operational projects) relative benefits must be weighed directly between potential candidate projects since costs are similar and benefits could have a high degree of relative variance.
- "C" - Projects that are not recommended for inclusion in Transpac at this time due to an apparently poor benefit vs. cost relationship and/or the project requires substantial development. It should be noted that numerical ranking of projects that were designated "C" due to insufficient development was difficult and should be considered approximate for that reason.

In addition to ranking, Tables I through VI also include a remarks column and selected project impact indicators. Priority groups V and VI (moderate and high cost projects) contain the greatest level of detail in that respect since, due to the magnitude of cost involved as related to limited available funds, it was necessary to consider as complete a range of relevant project benefit indicators as possible in order to arrive at an impartial and comprehensive ranking. In that respect tables for priority groups V and VI contain a continuation page entitled "Transit Goals Impacts". These impacts generally correspond to the long range policy goals discussed in Appendix C. Explanation of the terminology used to describe level of impact and the impact categories follow:

- a. Definition of level of impact terminology utilized -
 - Small, Moderate and Significant - Relative orders of magnitude used only in cases where sufficient project data was available to make a reasonable judgement. Specific numerical values, when applicable, are indicated within the individual project-specific portions of this analysis report.
 - Positive - Due to the nature of the project it is known that it will

have a positive impact. However, magnitude of the impact cannot be realistically further quantified based on available data.

- N/A - Not Applicable. Indicates that the category is not applicable to the project or that the level of impact is considered marginal.
- Consistent - Used only in conjunction with the "Support Land Use Plans" category. Indicates that the project is at least consistent with the area's land use plans. More specific terms are used when justified by available data.
- n.a. - Not available. Indicates that sufficient data was not available to make a reasonable judgement as to impact.
- Positive vs. Negative Impact - All terms shown in the tables indicate a beneficial or positive impact unless explicitly qualified, e.g., "moderate" under any category would indicate a favorable impact unless qualified as "moderate, negative".

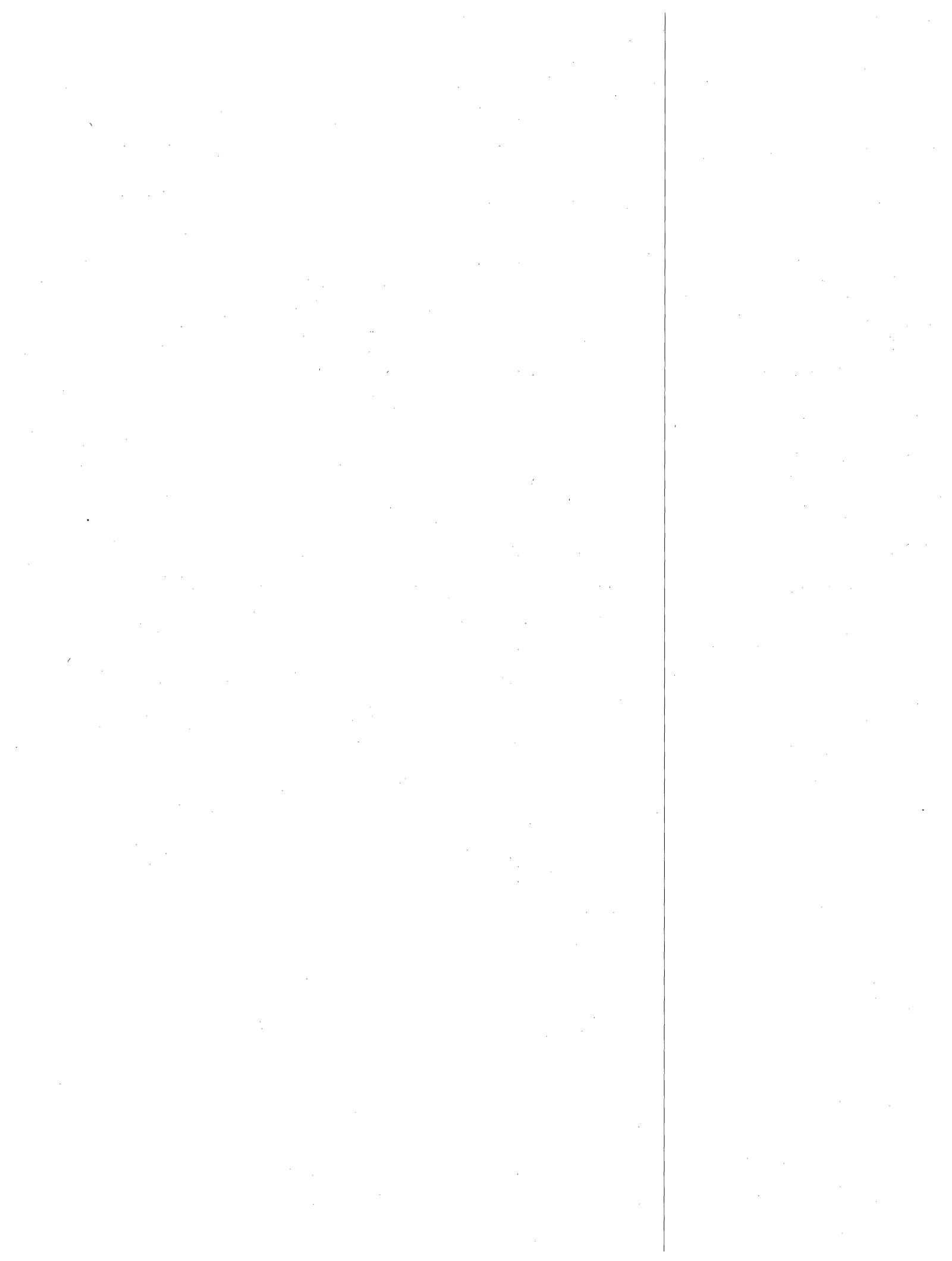
b. Definition of project impact categories -

- Auto Diver. - Auto diversions attributable to the project.
- Bus Diver. - Bus diversions attributable to the project. It should be noted that diversions per se do not indicate benefit or disbenefit. Whether beneficial or not would depend upon system impact on a case by case basis. This category is intended only to indicate magnitude of diversions.
- Transit Mode Travel Time Saving -
- User - Indicates travel time savings for project users. In the case of a project that impacts only a portion of an existing service, this category only considers those riders directly benefiting from the project.
- Non-user - Indicates travel time impact on transit riders whom the project affects but who do not use the service improvement provided by the project. May include transit riders on other transit modes as well as those utilizing the overall specific service in question. For instance, if a rail project causes significant diversion from a competing bus service, remaining bus patrons could be impacted. In cases where a certain portion of the prime mode patrons and one or more other mode patrons are impacted, the combined impact is reported. It should be noted that the impact could be positive or negative depending upon circumstances.
- Avg. - The resultant average impact on users and non-users.

- Support Land Use Plans - Indicates the extent to which the project supports area land use plans.
- Promote Joint Develop. - Indicates the extent to which the project contributes toward joint development, especially in the sense of contributing toward redevelopment/revitalization of an urban center.
- Transit Dependent Mobility - The degree to which the project enhances the mobility of those persons without access to automobiles and/or with limited incomes.
- Resident Base for NYC/Phila. - The degree to which the project supports or enhances the status of New Jersey as a residential base for the employment centers of New York City or Philadelphia.
- Safety - The extent to which the project contributes toward passenger safety. Projects which result in auto diversion, reduction of transit mode access distance or an increase in rail miles of travel versus bus miles are considered to have a positive safety impact on a statistical basis.
- User Amenities - Amenities such as convenience, comfort, etc. Only project user amenities are considered, i.e., not impacts on other users of the same service or of other impacted transit modes.
- Environ. Impact - Long term environmental impact of the project. Short term "normal" negative impact associated with actual construction is not considered in that context.
- User Level of Service - Impact of the project on quality or quantity of service, e.g., frequency, directness of trip, etc. Only direct project users are considered under this category.

It should be noted that although these impact areas were considered and given weight in the overall evaluation process, they do not of themselves determine project ranking. All factors previously discussed and detailed in Appendix C entered into the ranking process. Naturally if a project's primary purpose is to satisfy one or more of the impact areas, e.g., produce travel time savings, the level of impact in that area(s) would be a significant consideration in determining the overall effectiveness of the project.

PROJECT RANKING
MATRICES AND NARRATIVES
BY PRIORITY GROUP



PRIORITY I PROJECTS
PROJECTS REQUIRED FOR THE CONTINUANCE OF
ESSENTIAL SERVICES AT CURRENT LEVELS OF SERVICE

L-II

TABLE I
PRIORITY I PROJECTS, FOR THE CONTINUANCE OF
ESSENTIAL SERVICE AT CURRENT LEVELS OF SERVICE

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>Current Daily Pass. Trips</u>	<u>Remarks</u>
Bus Purchase	138.7	120.7	255,000	Patronage estimate based on total daily passengers carried by operators receiving buses times the ratio of new buses to total peak period bus requirement.
Raritan Valley Upgrade, Phase I	71.2	n.a.	13,400	
20 MU's for NEC	28.9	22.6	36,300	
4 Cab Cars, Pascack Valley	3.7	2.6	6,400	
Arrow I & II Rehab. & Compatability	34.0	27.5	36,300	
NJCL Equip. Purchase	53.0	n.a.	4,900	Patronage from Bay Head through Elberon, assumes elec. to Long Branch
RDC Rehab.	1.1	0.9	n.a.	
Newark Subway, Phase II	<u>21.3</u>	15.3	10,000	
Total Equipment	351.9			
<u>ROW Improvements</u>				
Systemwide Track Rehab.	52.0	38.8	72,000	
Raritan Valley Upgrade, Phase II	14.9	10.8	13,400	

NOTE: N/A = not applicable
n.a = not available

TABLE I(Continued)

PRIORITY I PROJECTS, FOR THE CONTINUANCE OF
ESSENTIAL SERVICES AT CURRENT LEVELS OF SERVICE

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>Current Daily Pass. Trips</u>	<u>Remarks</u>
<u>ROW Improvements(Continued)</u>				
Newark Subway, Phase I	15.6	12.9	10,000	
NJCL Sig/Comm & Bridge Rehab.	<u>13.0</u>	n.a.	7,900	
Total ROW	95.5			
<u>Fixed Facilities Improvements</u>				
Station Restoration/Parking	18.8	13.9	73,400	
Rail Equip.Maint.Facilities, Sunnyside	14.0	10.0	N/A	
Rail Equip.Repair Shop - Design & Land Acquisition	<u>4.0</u>	n.a.	N/A	
Total Fixed Facilities	36.8			
	<u> </u>			
	484.2			
Total "A" Ranked Projects 484.2				

Priority I Projects - Required for the Continuance of Essential Services

at Current Levels of Service

Project Cost, All Priority I Projects - \$484.2 million

Rank - All projects ranked "A"

All projects within this priority group are considered to be "A" ranking and are recommended for inclusion in Transpac. Due to their nature, they have not been ranked against each other on a numerical basis. All projects falling in this priority group must be implemented to maintain existing levels of service and for those services that have badly deteriorated in recent years, bring them up to acceptable standards of service. These projects can be divided into three areas of improvements: equipment, right-of-way and fixed facilities. Projects dealing with equipment include the rehabilitation of existing equipment and the replacement of worn-out rolling stock with new equipment. Projects involving improvements to right-of-way include track and bridge rehabilitation. Improvements to fixed facilities consists of rehabilitation of passenger stations and parking, storage yards and maintenance facilities.

If these projects are not implemented in the near future there will be an abnormally high number of breakdowns of equipment, malfunctioning of signal and communication systems and further deterioration of tracks which will inevitably lead to a degradation of the present level of service, resulting in serious delays and interruptions of service. For example, approximately 30% of the State's fleet of 33 Arrow I MU cars have been out of service at any given time. Failure to rehabilitate or replace existing rolling stock and make improvements to stations can only result in driving more riders from public transportation to the private automobile. This will lead to more congestion on highways causing an increased demand for new highway construction and the encouragement of an inefficient use of increasingly scarce energy resources. Added to this would be a negative impact on the State's already serious air pollution problem.

Conversely, if these projects are implemented there will be favorable impacts on both users and non-users of these services as well as improved operations and maintenance capabilities. The first benefit to be realized is the preservation and improvement of the substantial capital investment that has already gone into these transportation facilities. A second benefit is the enhancement of the safety, comfort and convenience of those now using these services. This will tend to prevent further decline in ridership and hopefully, add new riders attracted by the higher level of service offered. A third benefit is the potential for considerable savings in energy used and reduction in air pollution resulting from less vehicle miles traveled, as additional riders are diverted from the use of private automobiles. A fourth benefit is the potential for a reduction in operations and maintenance cost following necessary rehabilitation and replacement of rolling stock and the rehabilitation of

deteriorated tracks, signals, communications, and storage and maintenance facilities.

Description, status and data sources for each of the individual projects in this priority grouping are presented in Appendix A.

PRIORITY II PROJECTS
PROJECTS REQUIRED TO COMPLETE CAPITAL IMPROVEMENT
EFFORTS THAT HAVE BEEN INITIATED

TABLE II

. PRIORITY II PROJECTS
REQUIRED TO COMPLETE CAPITAL IMPROVEMENT
EFFORTS THAT HAVE BEEN INITIATED

<u>Projects</u>	<u>Project Costs (Millions)</u>	<u>Presently Authorized Funding (Millions)</u>	<u>Current Daily Passenger Trips</u>	<u>Remarks</u>
NJCL Electrification to Long Branch Project, Additional Work	9.1	137.5	12,100	Committed. Patronage based on all trips from Long Branch through Matawan.
M & E Reelectrification Project, Additional Work	63.0	265.0	37,200	Committed.
Total	72.1			
	<u>Priority II</u>	<u>Cumulative</u>		
Total "A" Ranked Projects	72.1	556.3		

II-12

Priority II Projects - Projects Required to Complete Capital Improvement Efforts

Project Cost, All Priority II Projects - 72.1-million

Rank - All projects ranked "A"

There are "two" projects in this priority group pertaining to overall capital projects for which initial funds have already been committed and implementation is already underway. They are the electrification of the North Jersey Coast Line (NJCL) and the reelectrification of the Morris and Essex Lines of the Hoboken Division. In the case of the Morris and Essex reelectrification, the additional Transpac funding will permit its completion. In the case of the NJCL electrification to Long Branch, the Transpac funding will permit continuity in the construction program while the remaining required funds, approximately \$47.4 million, to complete the project are sought. Although the project falls within Priority II, full funding for completion of electrification to Long Branch is not included within Transpac as a result of the findings of a reassessment of NJCL improvement program priority needs. The reassessment was completed subsequent to the preliminary Transpac recommendations, which did include the full completion cost amount of \$53.5 million. The reassessment indicated that there were \$47.4 million more Priority I needs north of South Amboy and south of Long Branch than had been identified in the preliminary recommendations. However, it was determined that to shift that amount from other recommended Transpac projects would jeopardize the effectiveness of the program. It was therefore recommended that the funds be taken from Priority II and the resulting completion cost shortfall be funded outside of Transpac. The preceding is detailed in the project description presented in Appendix "A".

The two projects will result in benefits for both users and non-users of the services. They include:

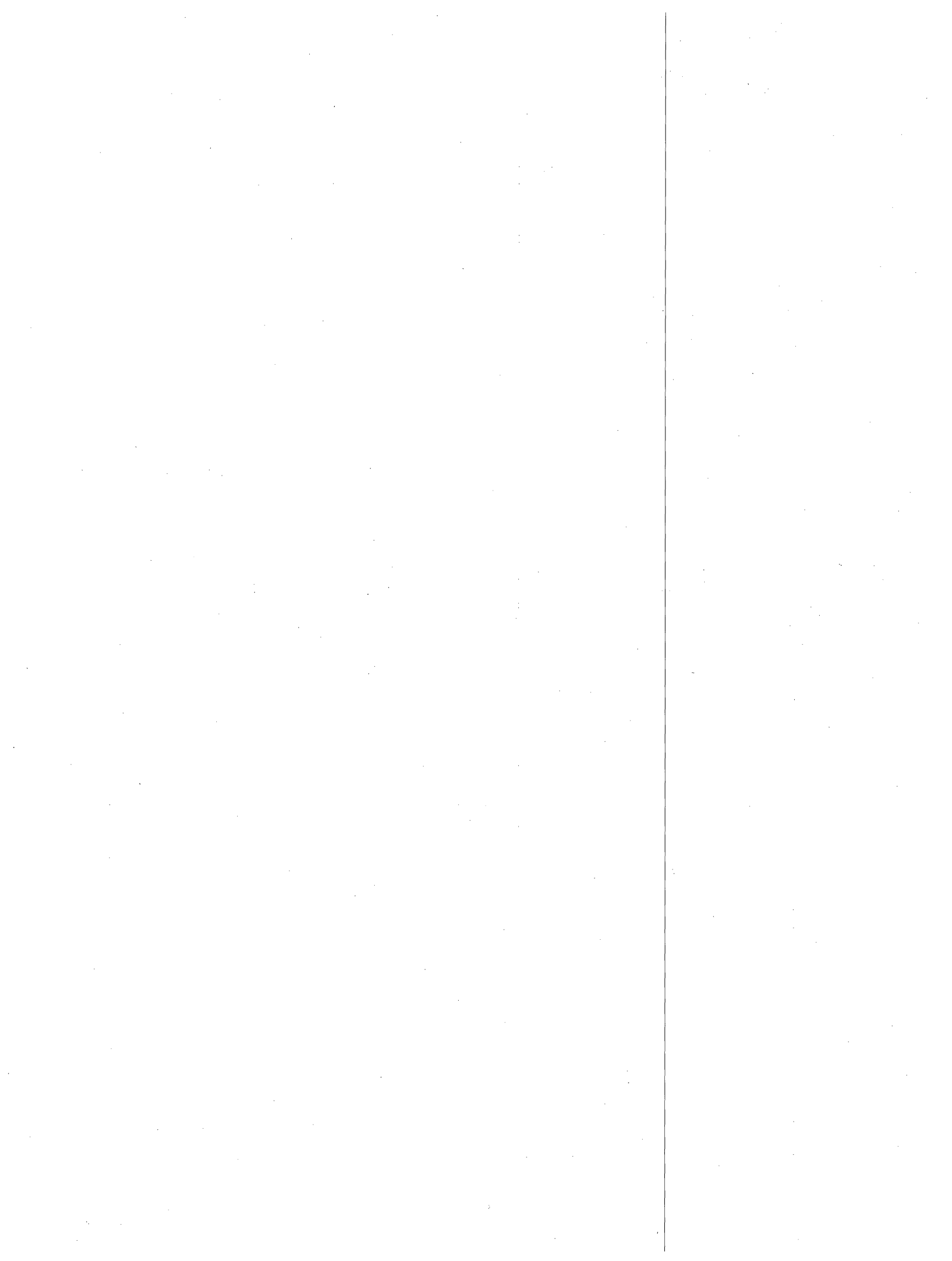
- The preservation and improvement of the substantial capital investment in existing facilities.
- Increased safety, comfort and convenience for users.
- The potential for attracting new riders by the higher level of service offered.
- Positive environmental and energy impact through auto diversions to transit.
- More dependable service and lower operating/maintenance costs due to right-of-way improvements and the replacement of worn out rolling stock with new equipment.

An additional benefit specifically resulting from the completion of the NJCL electrification project is a reduction in travel time for trips from Long Branch to New York City. Benefits resulting specifically from the implementation of reelectrification of the Hoboken Division's Morris and Essex

Lines include the following:

- (1) Replacement of the existing electrical system and supporting structures that are over 40 years old, well past the recommended useful life of the equipment.
- (2) Replacement of wooden catenary support poles that have also reached the end of their useful life.
- (3) Replacement of 120 cab control cars and 111 trailer cars whose average age is in excess of 50 years.
- (4) A reduction in maintenance costs and an increase in operational reliability due to the replacement of this equipment with new Arrow III Multiple Unit cars.
- (5) Increased passenger capacity to accommodate future growth in ridership due to the fact that the new MU cars have a seating capacity of 117 passengers compared to 80 seats on the old cars.

Project detail, status, etc. are presented in Appendix "A".



PRIORITY III PROJECTS
LOW COST USER ORIENTED PROJECTS

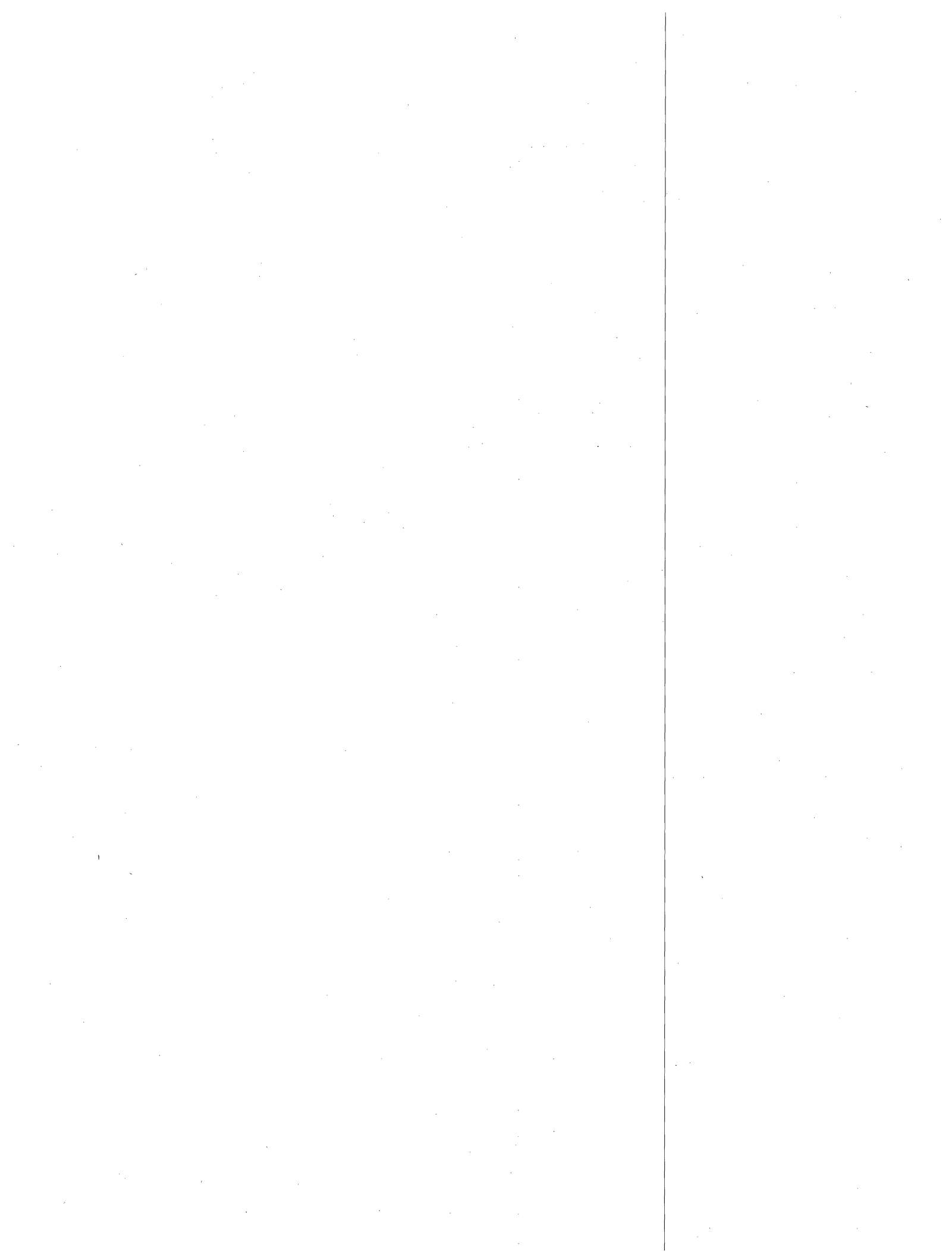


TABLE III

PRIORITY III, LOW COST USER ORIENTED PROJECTS

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>1985 Estimated Avg. Daily Pass. Trips</u>	<u>Cap. Cost (1978 \$) Per 1985 Daily Trips</u>	<u>Rank</u>	<u>Remarks</u>
Hoboken Terminal Imp.	2.0	1.4	16,600	\$ 120	1A	Rough patronage estimate based on Hoboken Div. non-PATH transfer trips and local origin (non-rail access) PATH trips. No data available for other trip purposes.
Newark Subway, Phase III	4.0	3.0	12,000	\$ 250	2B	Amenities oriented, rather than justifiable operational improvement considering patronage level.
I-295 NEC P-n-R (Station)	3.2	2.4	3,260	\$ 736	3C	Questions of local acceptance and possible modification due to potential Princeton Jct. Station area private development needs resolution. Otherwise would be of a higher rank.
Bay Head NJCL P-n-R	0.3-0.9	0.2-0.7	240	\$833-\$2917	4C	Project needs development. Also question of local opposition.
Newark Bus Security	0.5	0.4	n.a.	n.a.	5C	Project needs development. Also, alternative funding should be explored.
E&H Vehicles	9.8	7.2	n.a.	n.a.	6C	Need requires development. Also alternative funding sources should be explored. Was initially proposed as a FAUS project.

91-II

TABLE III (Continued)

PRIORITY III, LOW COST USER ORIENTED PROJECTS

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>1985 Estimated Avg. Daily Pass. Trips</u>	<u>Cap. Cost (1978 \$) Per 1985 Daily Trips</u>	<u>Rank</u>	<u>Remarks</u>
Geo. Wash. Br. HOV	0.2	0.2	n.a.	n.a.	7C	FAUS project

	<u>Priority III</u>	<u>Cumulative</u>
Total "A" Ranked Projects	2.0	558.3
Total "B" Ranked Projects	4.0	4.0
Total "C" Ranked Projects	<u>14.3</u>	<u>14.3</u>
Total	20.3	576.6

Hoboken Terminal Improvements - Rank: 1A

Project Cost - \$2.0-million

Basic Hoboken Terminal rehabilitation work is in progress under an Economic Development Administration grant. However, the terminal related project considered here i.e., the rehabilitation of the bus depot and provision of a taxi stand/kiss-and-ride facility, is not provided for under the EDA grant. This low cost project, recommended in the final report of the "Hoboken Transportation Center" study, February, 1977, as one step in the overall improvement of Hoboken Terminal and its environs, would relieve congestion, improve safety and raise level of service through more efficient and convenient passenger movement in general and with respect to terminal interchanges in particular. An estimate of the specific number of users impacted is not presently available. However, it is estimated that local origin PATH trips i.e., daily non-Hoboken Division transfers, will be approximately 5,000 round trips in 1985. These would consist of auto, bus, taxi and walk access modes. There is also an estimated Hoboken Division daily round trip 1985 ridership of approximately 3,300 who would not switch to PATH and would likewise use one of the preceding modes. Estimates for non-PATH/Hoboken Division bus/taxi ridership at the Terminal area is not available.

The project will also contribute toward the overall rehabilitation and improvement effort associated with the terminal facility, successful completion of which would have significant urban area revitalization aspects as well as improving commuter transportation. It is therefore ranked first in this priority grouping. It should be noted that the successful accomplishment of the overall improvements envisioned for Hoboken Terminal and environs, both transit and non-transit related, lies in a joint development approach. That is, all parties with an interest in the revitalization and improvement of the area should actively cooperate and pool resources. Appropriate parties and potential funding sources appear to include: UMTA, FHWA, FAUS, PATH, EDA, Historic Preservation, HUD, Green Acres, and NJDOT.

Newark Subway - Phase III - Rank: 2B

Project Cost - \$4.0-million

This last phase of the Newark subway improvement program has been ranked as a "B" project since its basic thrust is toward passenger convenience. Based on a projected 1985 patronage of approximately 12,000 passenger trips per day, or an "equivalent" of 6,000 round trip riders, the installation of high level platforms and automatic fare collection is not required to maintain a high level of service. Patronages in excess of 15,000 trips per day were adequately accommodated in past years. It is recommended for inclusion in Transpac on an as funding available basis after considering successive "B" projects in following priority groups as to relative benefit.

It is recognized that the proposed USDOT 504 regulations, when

published, may have a long-term impact on this project with respect to accessibility requirements for at least "key" stations.

I-295 Park and Ride Rail Station - Rank: 3C

Project Cost - \$3.2-million

The purpose of this facility, which would be built to accommodate 1,860 vehicles and have capability of further expansion, is to relieve severe parking capacity restrictions at Trenton and Princeton Junction stations. Combined parking demand at the two sites is estimated to be 3,360 vehicles in 1980 and 4,410 by the year 2000. Current combined capacity is 2,554 spaces. Study results indicate that significant auto circulation and access restrictions currently exist at the Trenton and Princeton Junction stations. Expansion of parking capacity at either site, coupled with normal growth of the surrounding areas, would create unacceptable levels of auto congestion on the existing roadway network. The park-and-ride is estimated to initially divert approximately 775 autos from the two stations (400 from Princeton Junction and 375 from Trenton). In addition to providing for parking demand, and therefore permitting projected ridership growth to occur, the project would also provide the potential for economic growth, e.g. small park-and-ride.

The preceding discussion would indicate that the project should be of an "A" ranking. However, there are three factors that need to be resolved before the project can be implemented. First, the project's estimated cost is for the station proper and related facilities only. Parking and access costs, estimated at \$3.9 million (total facility cost of \$7.1 million) have been assumed to be available through Interstate funding. However, funding sources would have to be confirmed. Second and most important, although Hamilton Township has expressed support, the City of Trenton has strongly opposed the project on the basis that it would have a serious detrimental impact on the City. Although the concern has not been substantiated, it needs to be resolved in order for the project to be successfully advanced. Third, the Bamberger proposal for the development of the area adjacent to Princeton Junction Station, centered on a conference center, appears closer to realization at this time than in the past. Although it would not negate the need for the I-295 facility, it would have an impact on size requirement. Therefore, this issue also needs to be addressed. Based on the preceding discussion, the project is ranked in the "C" category at this time. It should be reevaluated when the preceding points are resolved.

Bay Head Rail Park and Ride Facility - Rank: 4C

Project Cost - \$0.3 - 0.9-million

This project is treated independently, i.e., instead of only a part of the "Major Commuter Rail Station Improvements" project proposal since it has received preliminary study analysis by the NJDOT Bureau of Highway Planning. There is no question that the existing parking area is inadequate. A field survey conducted in 1977 indicated an estimated overflow of 40-50

cars. This was due in part to the lot's capacity of 25 cars not being achievable due to its poor condition. That particular problem would be addressed as part of the Priority I project "Station Restoration/Parking". However, the need for additional parking capacity is still indicated. Despite the preceding, the project is not recommended for inclusion in Transpac at this time. At a community involvement meeting held on June 28, 1977 it was reported that unanimous opposition to the project was voiced. It does not appear that the project can be successfully advanced unless community support can be obtained in the future. There is also a question as to the specific number of initial spaces required. Magnitude of future growth at the station in the short term would depend somewhat on the rail operations plan for Bayhead service, which is not yet finalized. Once the plan is resolved and if local support could be obtained, the project should be reevaluated. It should also be noted that the park and ride appears to be eligible for FAUS as well as UMTA funding.

Newark Bus Transit Security Bus Radios - Rank: 5C

Project Cost - \$0.5-million

The "Transit Crime Study", June 1977, NJDOT in cooperation with SLEPA, which generated the project proposal, recommended that the project be monitored in order to determine whether and to what extent crime is reduced and/or patronage increased. This recommendation is valid since it would be the only realistic way to ascertain whether in fact the concept was of any real benefit and should be pursued in other areas. Since that facet of the project has not been developed, the project is not recommended for inclusion in Transpac at this time. The question of whether other than UMTA funding may be available, at least for a pilot program, should also be fully explored prior to possible reevaluation of the project at a later date.

Purchase of Vehicles to Meet the Transportation Needs of the Elderly and Handicapped - Rank: 6C

Project Cost - \$9.8-million

Although the project has a worthy goal, it is not recommended for inclusion in Transpac at this time. The project was originally conceived as a FAUS funded effort whereby initiative and distribution of vehicles would occur at the local level. This appears to be a more productive approach. The actual need for the magnitude of vehicles involved (a total of approximately 420) has not been established. Development of need on a year by year basis at the local level appears more realistic than committing a lump sum of funds. Also the use of "local" FAUS funds would tend to eliminate purchasing vehicles when need is not demonstrated. Finally, it has not been established that UMTA (other than 16(b) (2)) or FAUS funds are required to meet vehicle acquisition needs. Other appropriate funding sources should also be explored.

High-Occupancy Vehicle Lane, George Washington Bridge Approach - Rank: 7C

Project Cost - \$0.2-million

This project is not recommended for inclusion in Transpac at this time, primarily since it benefits only car pools (extension of existing bus lane). Also, it is not known at this time whether the project would require the relocation of a bus stop, at an estimated additional cost of approximately \$300,000. Finally, benefits vs. disbenefits do not appear to be clearly defined, based on available information.

PRIORITY IV PROJECTS
LOW COST OPERATIONS ORIENTED PROJECTS

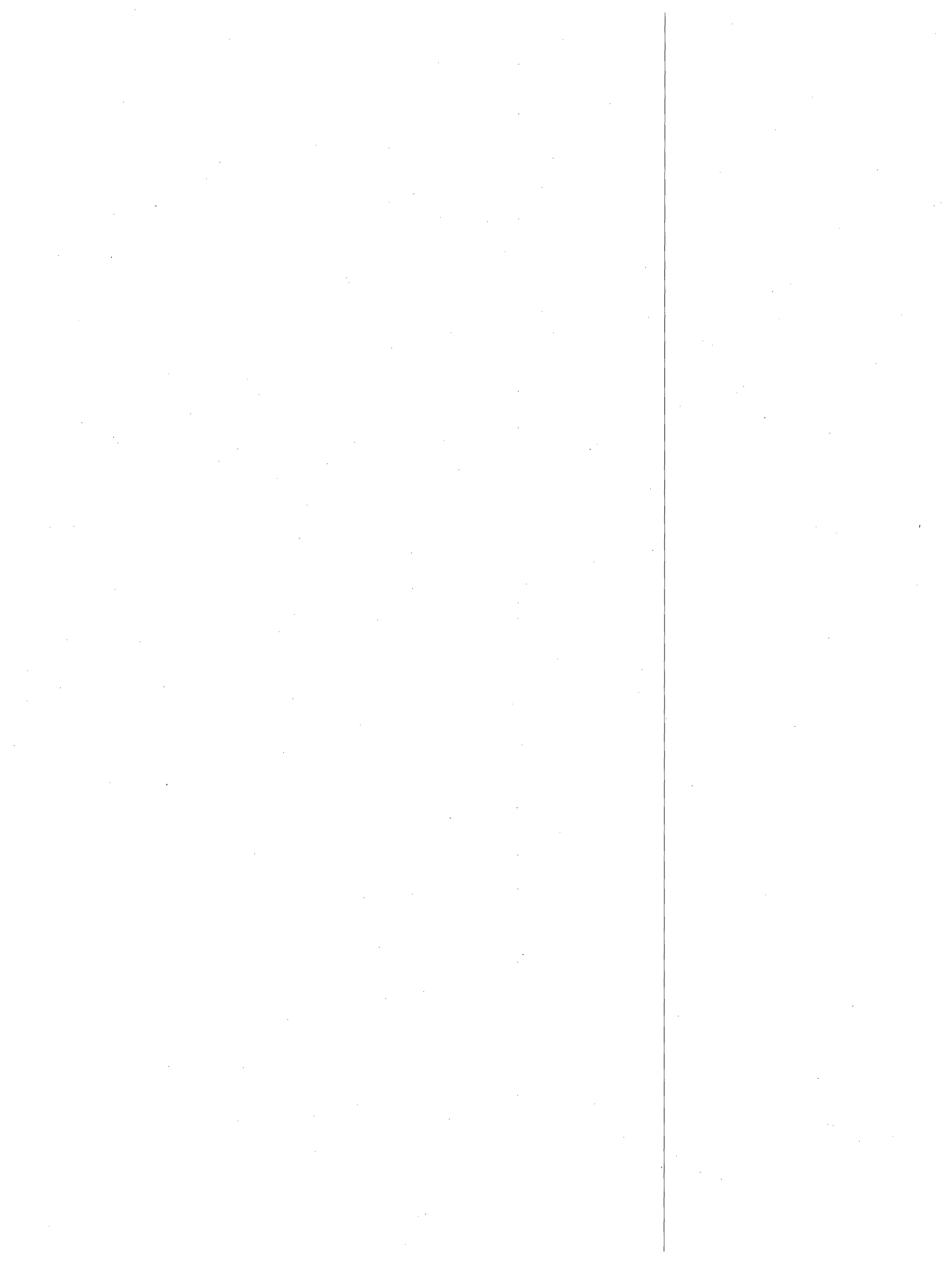


TABLE IV

PRIORITY IV, LOW COST OPERATIONS ORIENTED PROJECTS

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>Current Daily Passenger Trips</u>	<u>Rank</u>	<u>Remarks</u>
Montclair Connection, Phase II	7.8	4.8	5,040	1A	The project is estimated to produce an annual net saving (taking into account revenue loss) of at least \$131,000 (1978 dollars). Savings are understated since the bulk of lost riders would switch to bus and the project would in fact induce new ridership. Assuming a 50-yr. project life, present worth of net operational plus capital investment savings would be at least \$14.36-million. This figure less present worth of the project cost is \$8.37-million.
Exact Fare Route Bus Fare Boxes	3.1	2.0	n.a.	2A	
Bus Service Veh.	2.0	1.4	n.a.	3A	

	<u>Priority IV</u>	<u>Cumulative</u>
Total "A" Ranked Projects	12.9	571.2
Total "B" Ranked Projects	0.0	4.0
Total "C" Ranked Projects	0.0	14.3
Total	12.9	589.5

NOTE: N/A=not applicable
n.a.=not available

Montclair Connection, Phase II - Rank: 1A

Project Cost - \$7.8-million

This project, for the completion of the Montclair connection, is ranked as 1A within this priority grouping and recommended for inclusion in Transpac due to its significant operational cost savings and user benefits it produces. The project will permit discontinuance of Boonton Line service east of Montclair, i.e., all Boonton Line trains would be routed via the Montclair Branch. This operational modification will result in a significant net cost savings. It is estimated that net annual operational savings (allowing for revenue loss) in 1978 dollars would be approximately \$131,000. A capital cost saving of approximately 0.5-million dollars (1978 dollars) would also be realized due to station and bridge rehabilitation on the Boonton Line east of Montclair which would not have to be undertaken. Assuming a project life of 50-years, the present worth of total net savings (present worth of 50-year operational net savings, plus present worth of station/bridge rehabilitation cost, less present worth of the capital cost of the Montclair Connection project) is estimated at 8.4-million dollars.

It should be noted that the estimated revenue loss (\$55,000 in 1978), due to patronage losses from Glen Ridge to Arlington stations, is overstated if looked at from a "transit system" basis. That is, most rail riders lost would switch to bus, not auto. Strong competitive bus service already accounts for the minor patronage at stations east of Montclair. Presently there are approximately 130 all-day eastbound boardings at Glen Ridge (most of whom could switch to Montclair Branch service) and a combined total of approximately 170 all-day eastbound boardings from Rowe Street to Arlington stations (most of whom would switch to bus). It should also be noted that estimated operational cost savings were based on existing conditions. It does not take into account the possible additional savings which would accrue if the operating deficit for the Hoboken Division were computed using the Rail Services Planning Office (RSPO) Standard.

The project has user as well as operational benefits. The immediate benefit to the traveling public will be the availability of a new rail route providing direct access from the Boonton Line service area to the Newark CBD. The Boonton Line currently has a large commuter shed but does not serve Newark. Current daily round trip ridership west of Montclair is approximately 2520 riders. Access to the CBD should directly result in ridership growth over time. Specific projections are not currently available. In the advent of the Kearny connection, the Montclair connection would also permit Boonton Line riders to transfer to M&E trains for access to Penn Station, NYC. This would also have a positive impact on ridership. The project will also have a positive impact on Auto Vehicle Miles Travelled in that current Montclair Branch riders who live west of Montclair could board at closer Boonton Line stations.

The only true disbenefit associated with the project is that it necessitates the relocation of approximately 60 families.

Purchase of Fare Collection Equipment for Exact - Fare Bus Routes - Rank: 2A

Project Cost - \$ 3.1-million

Approximately 70% of the equipment purchased will be used to replace antiquated and obsolete existing fare collection equipment. Continued use of the equipment would be detrimental both from a security and maintenance standpoint. The remainder of the purchase will be for the equipping of buses presently without such devices. Particularly with respect to expansion of exact fare routes, the project will enhance the safety of both passengers and drivers as well as provide greater security for fare monies collected. By eliminating the necessity of drivers having to handle money to make change, potential thieves will be discouraged from attempting to hold up buses on these routes. The new fare equipment also ensures greater security for fare monies collected in that the money will remain in the exact fare box until it is removed for processing at the garage from which the bus is assigned or a central processing facility.

In addition to the above benefits, the new fare boxes will be designed to permit electronic data retrieval and display if such a capability is desired at some time in the future. Following from the preceding, the project is ranked "A" and recommended for inclusion in Transpac. It is numerically ranked below the Montclair connection only on the basis of relative order of magnitude of directly measurable benefits.

Purchase of Bus Operations Support Vehicles - Rank: 3A

Project Cost - \$2.0-million

This project, which will replace bus support vehicles purchased prior to 1960, is ranked "A" and recommended for inclusion in Transpac since its non-implementation would have a serious detrimental operational impact. It is numerically ranked below the purchase of fare boxes only due to the passenger/driver safety related implications of that project. For practical purposes, this project could be considered of equal rank. If the vehicles in question, including tow trucks, service trucks and vehicles for the transportation of operations and maintenance supervisory personnel are not purchased there will be a progressive decline in the effectiveness of the operations and maintenance efforts of the State's subsidized bus operators. As the existing antiquated fleet of vehicles continues to age and more vehicles are taken out of service, operations and maintenance personnel will not be able to respond promptly to bus breakdowns which will in turn cause significant delays and interruptions of service. This would discourage new ridership and perhaps lead to a decline in current riders. In time, this reduction in maintenance capabilities may result in a more accelerated deterioration of rolling stock which will again impact the operations and level of service provided by the operators.

PRIORITY V PROJECTS
MODERATE COST PROJECTS OF SIGNIFICANT BENEFIT

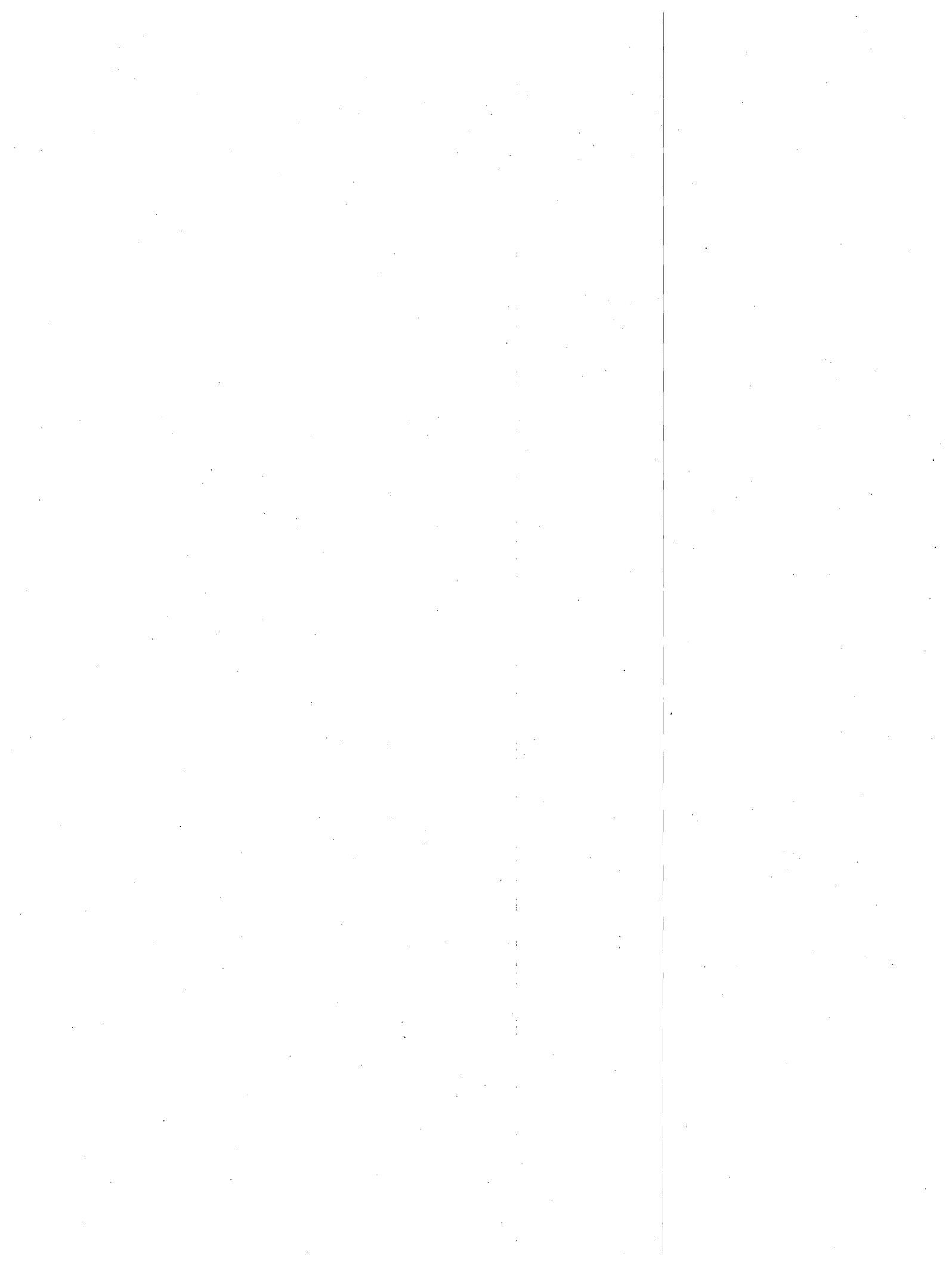


TABLE V

PRIORITY V, MODERATE COST PROJECTS OF SIGNIFICANT BENEFIT

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>1985 Estimated Avg. Daily Pass. Trips</u>	<u>Cap. Cost (1978 \$) Per 1985 Daily Trips</u>	<u>Rank</u>	<u>Remarks</u>
Camden Transp. Center.	19.0	14.8	10,500	\$1410	1A	Patronage does not include bus transfers to avoid double counting. Total daily movements, i.e., with transfer, is 19,000
Kearny Connection	55.0	39.3	19,400	\$2026	2A	Project cost does not include cost of additional cars which may be required for ridership increases.
Long-haul Route Bus Radios	20.0	n.a.	n.a.	n.a.	3B	Order of magnitude cost estimate.
Pascack Valley Double Trk.	32.1	24.9	6,900 (5,300 N.J.)	\$3609	4C	Project requires development.
Netcong Extension	22.0	14.3	480	\$29792	5C	Project is of high cost relative to apparent benefit.
Meadowlands Transit	19.4	14.0	n.a.	n.a.	6C	Project, as stated, needs development. Portions of the project are treated under related geographic area projects to a lesser extent.
Secaucus Transfer	47.8	35.1	23,400 (19,000 N.J.)	\$1500	7C	Preliminary study results indicate the project may be of minimal user benefit and of system disbenefit. Detailed analysis required for further evaluation. Project cost does not include cost of additional cars required to accommodate the substantial number of projected bus diversions.

TABLE V(Continued)

PRIORITY V, MODERATE COST PROJECTS OF SIGNIFICANT BENEFIT

	<u>Priority V</u>	<u>Cumulative</u>
Total "A" Ranked Projects	74.0	645.2
Total "B" Ranked Projects	20.0	24.0
Total "C" Ranked Projects	<u>121.3</u>	<u>135.6</u>
Total	215.3	804.8

TABLE V (Continued)

PRIORITY V TRANSIT GOALS IMPACTS

<u>Project</u>	<u>Auto Diver.</u>	<u>Bus Diver.</u>	<u>Transit Mode</u>			<u>Support Land Use Plans</u>	<u>Promote Joint Develop.</u>	<u>Transit Dependent Mobility</u>	<u>Resident Base For NYC/Phila.</u>	<u>Safety</u>	<u>User Amenities</u>	<u>Environ Impact</u>	<u>User Level of Service</u>
			<u>Travel User</u>	<u>Time Non-User</u>	<u>Saving Avg.</u>								
Camden Transp. Center	Positive	N/A	Positive	Positive	Positive	Signif.	Signif.	Positive	Positive	Positive	Signif.	Positive	Positive
Kearny Connection	Moderate	Small	Moderate	Sm. Loss	Moderate	Consistent	N/A	N/A	Positive	Positive	Signif.	n.a.	Signif.
Bus Radio	n.a.	N/A	Positive	N/A	N/A	N/A	N/A	N/A	N/A	Positive	N/A	N/A	Positive
Pascack Valley Double Track	n.a.	n.a.	n.a.	n.a.	n.a.	Consistent	N/A	N/A	Positive	Positive	Moderate	n.a.	Moderate
Netcong Extension	n.a.	n.a.	Positive	N/A	N/A	Consistent	N/A	N/A	Positive	Positive	Moderate	Positive	Moderate
Meadowlands Transit	n.a.	n.a.	n.a.	n.a.	n.a.	Consistent	N/A	N/A	N/A	Positive	Moderate	n.a.	Signif.
Secaucus Transfer	Small	Signif.	Small	Sm. Loss	Sm. Loss	Consistent	N/A	N/A	Positive	Positive	Moderate	n.a.	Small

NOTE: N/A = applicable or marginal
n.a. = not available

Camden Transportation Center - Rank: 1A

Project Cost - \$19.0-million

This project is ranked first in its category based upon the following primary considerations:

- . The high level of its contribution toward supporting the City of Camden's program and plans for the revitalization of the Camden CBD. Its impact on support of land use plans and promoting joint development is significant.
- . Need for a facility capable of efficiently providing for coordinated multi-modal transportation services, especially in light of high projected Camden CBD oriented travel demand increases due to new major traffic generators associated with the CBD's redevelopment, e.g., VA Hospital, Cooper Medical Center, Court House Complex, County and City Offices, new housing, etc.,
- . The cumulative positive impacts of the project's remaining benefits, which include: Encouragement of transit usage with attendant auto diversions; provide a more efficient operational base for bus operators; reduce travel time; better serve the needs of transit dependents; reduce traffic congestion and; provide passenger amenities.
- . Project cost not prohibitive and reasonable with respect to benefits derived.

The project is well advanced. The City of Camden has submitted a final application to UMTA. The project has the full support of all concerned parties in the Camden area.

It should be noted that the Camden Transportation Center would serve as the common focal point of the existing PATCO Lindenwold Line and the proposed Mt. Laurel and/or Glassboro extension. PATCO passenger movements at the Center would be expected to increase significantly in that event. However, in that the PATCO extension proposals are currently undergoing alternatives analysis at the request of UMTA and since the extensions do not realistically appear capable of implementation in the short range in any case, they were not considered in the project ranking process.

Kearny Connection - Rank: 2A

Project Cost - \$55.0-million

This project was ranked second in its category principally due to its high magnitude of benefit in the areas of travel time savings and level of service improvement in the form of provision of direct access to midtown Manhattan, i.e., Penn Station, NYC, as opposed to the present transfer to PATH at Hoboken. Although the project would result in a travel time dis-

benefit to M&E rail riders not utilizing the direct access service and to bus riders not diverted to the service, on the assumption that frequency of bus service would be reduced due to diversions, the disbenefit would be nominal.

Preliminary Trans-Hudson study data indicates that direct access project users, estimated at 9,700 daily persons, including 1,200 auto users, in 1985, would average a 10-minute saving per trip, saving for an individual user depending upon his specific final destination in Manhattan. On the basis of a time value of 6-cents per minute, annual savings to users would be approximately 3.2 million dollars. It should be noted that the estimated ridership is for the M&E only. Boonton Line transfer access was not assumed for this analysis.

It is estimated that 1985 users would include approximately 1,700 bus diversions or approximately a 53% reduction in total corridor NYC bus ridership (estimated at 3,200 round trips without DRAP). Expected service cutbacks would result in an estimated average travel time loss of approximately 2-minutes per trip for remaining NYC bus riders. However, considering the magnitude of the loss and the fact that the M&E corridor is not considered "bus territory" in any case, the disbenefit is considered marginal. M&E riders not using the direct access service, estimated at 5,100 round trips in 1985, are also estimated to experience an average time loss of 2-minutes per trip. Again, this is not considered significant. Combined annual "non-user" rail and bus time losses are estimated at 0.4 million dollars in 1985. This yields a 1985 system net annual savings of 2.8 million dollars.

The project was ranked below the Camden Transportation Center for the following reasons:

- The Kearny Connection is not as critical a project as such. It provides a "new" service that substantially raises the system's level of service. However, the existing level of service is not inadequate. Conversely, the Camden Transportation Center addresses more immediate needs. Failure to implement the project would provide a serious obstacle to the City's realization of its CBD revitalization program and also lead to erosion of transportation level of service as travel demand increases. The Center also directly contributes to the improvement of mobility for the transit dependent.
- The differential in the magnitude of project costs is substantial, with the Kearny Connection costing approximately 2.9 times as much as the Center. On a cost per daily user basis, the Connection costs approximately 1.4 times as much. While absolute cost and cost per rider do not necessarily reflect a project's "worth" in terms of necessity or benefits derived, they are useful in determining project justification and priority when looked at while considering those needs and benefits, as well as budgetary constraints. In that context they reinforce ranking the Kearny Connection below the Camden Transportation Center. It should also be noted that project cost as stated does not take into account any additional rolling stock requirements that may be needed to handle added patronage due to bus and auto diversions, estimated at 2,900 round trips in 1985.

Purchase of 2-Way Radios for Long-Haul Buses - Rank: 3B

Project Cost - \$ 20.0-million

The Operational and fringe benefits associated with the purchase of 2-way radios and ancillary equipment for all long-haul commuter bus routes over 20-miles in the State have been identified. In brief, they include: Improvement of operating procedures in the area of scheduling flexibility to meet variations in demand; more efficient vehicle utilization following from the preceding; minimize delays due both to traffic conditions/accidents and bus breakdowns and; increase security/safety of riders and the public at large through the ability to quickly establish contact with emergency, police and fire services. In order to develop criteria and to determine allocation by carrier and the quantity and geographic location of base stations and microwave towers, further study is required and will be undertaken by NJDOT, however, the project can be advanced within Transpac's time frame. Considering the need for development, the project is ranked as a "B" rather than an "A" project at this time. It is recommended for inclusion in Transpac on an as funds available basis. It should be noted that the project would be ranked below the preceding projects in this priority grouping, regardless of its implementation status, since it is of less immediate need.

Pascack Valley Improvements - Double Tracking and Related Improvements -

Rank: 4C

Project Cost - \$32.1-million

At this time it is not clear as to what the actual short term, i.e., through 1985, demand for increased frequency and capacity on this line will be, considering both "normal" growth and the impact of the development of the Hackensack Meadowlands. Likewise, potential demand growth constraints, stemming from possible station access and capacity limitations, need be explored. It is also unclear as to the magnitude of impact on current bus operators presently serving this corridor with respect to NYC oriented trips. This information should be available through a combination of the results of the Hackensack Meadowlands Transportation Study, when finalized, and the Main/Bergen/Pascack Valley Corridor Study. It should be noted that provision for expected "normal" rail growth, as well as assuring an adequate spare ratio, have been addressed as a Priority I project, calling for the purchase of 4 cab cars. Present round trip ridership is approximately 3200 passengers per day with 1985 projected at approximately 3450 under "normal" growth.

Considering that the level of investment for the project is substantial, it is considered prudent to reserve judgement on it until data is available from the Main/Bergen/Pascack Valley Corridor Study, and therefore is not recommended for inclusion in Transpac at this time.

E-L Electrification - Netcong Extension - Rank: 5C

Project Cost - \$22.0-million

This project is ranked low primarily due to the project's high estimated capital cost (1978 dollars) per daily 1985 passenger trips, estimated at \$29,792 on the basis of 240 round trip riders (480 passenger trips). The projected patronage is based on "normal" growth only, in that data pertaining to possible generated ridership due to the improvement is not available. However, even a 10-fold increase over the 1985 "normal" growth estimate would still yield a cost per passenger estimate of roughly \$3,000. Also, a portion of any generated ridership would be through diversions from Dover Station, i.e., existing rail riders, and bus diversions. Finally, one advantage that has been cited for the extension is that it would provide access to the Newark CBD via the M&E, thereby stimulating ridership. However, construction of the Montclair Connection would also provide Newark CBD access.

The project is not without merit in that it would reduce VMT, raise level of service, and have the potential for stimulating ridership growth. It would also provide the stations with direct access to Manhattan if the Kearny Connection were constructed (without electrification, "transfer" access would be possible if the Montclair Connection were constructed). The question is whether, based on available data, the benefits derived justify the cost, especially relative to other projects.

Based on the preceding, it is recommended that the project not be included in Transpac at this time. However, if further project development should indicate that the project has a higher benefit/cost relationship than presently indicated, it could be reconsidered at that time on a funds available basis.

Hackensack Meadowlands District Transit - Rank: 6C

Project Cost - \$19.4-million

The project as stated herein, is not recommended for inclusion in Transpac at this time. Explanations pertaining to the project's individual components are presented in the following paragraphs.

Purchase of five rail cars to meet existing needs and to allow for market growth - This portion of the project is addressed as a Priority I project, i.e., "Pascack Valley Improvements - Equipment Purchase", which calls for the purchase of 4 cab cars. The purchase is estimated to provide an adequate spare ratio and satisfy "normal" growth through 1985.

Purchase of 4 cars and 1 locomotive for the Pascack Valley for work trips to the Meadowlands - This segment of the project was considered within this priority grouping under the "Pascack Valley Improvements, Double Tracking and Related Improvements" project. It should be noted that the

Meadowland's project does not include the cost of double tracking, which would be required for the operation of an additional train set. The cost for double tracking would be approximately 26.6-million dollars. As in the case of the "Double Track" project this segment of the "Meadowlands" project is recommended for deferral until results of the Main/Bergen/Pascack Valley Corridor Study are available.

Purchase of 3 cars and 1 locomotive for Hoboken to the Meadowlands travel, i.e., reverse commute, and 3 cars and 1 locomotive for Meadowlands to Hoboken (NYC) demand - The project segment, as stated, is not recommended for inclusion in Transpac at this time for the reason stated for the preceding project element. However, once an operating plan is formulated, it may be possible to handle the described services with a shuttle service. In that sense, the project would be more of an operational than a "capital" improvement.

Purchase of 20 transit buses for service into, out of, and within the Meadowlands District - Projects for the acquisition of buses in addition to those within the basic Transpac bus purchase program (PANYNJ and non-PANYNJ areas) are not recommended for inclusion in Transpac at this time. Decisions concerning the need for any additional new equipment should be deferred until results of the "Transportation Efficiency and Effectiveness" technical study are available. One of the conclusions of this study may be that the service can be provided without acquisition of additional buses, through shifts in the existing fleet.

Secaucus Transfer - Rank: 7C

Project Cost - \$47.8-million

Analysis based on preliminary results of the "Trans-Hudson Rail Operations Planning and Market Analysis" technical study (IT-09-0037/69) indicates that the Secaucus transfer would save users, estimated at 11,700 daily round trip riders (9,500 from N.J. stations) in 1985, an average of approximately 2.3-minutes per trip. On the basis of a time value of 6-cents per minute, this would yield an annual savings to total users of approximately 872-thousand dollars. However it is estimated that Hoboken division Mainline/Bergen Co./Pascack Valley rail riders desiring to continue to Hoboken, estimated at approximately 11,000 in 1985, would lose an average of approximately 2-minutes per trip. Likewise bus riders to NYC who would not switch to rail, estimated at 33,900 daily round trips in 1985, are projected to experience a slight time loss. The aggregate result is that on a system basis the project is projected to produce a small negative travel time savings. This result does not include travel time disbenefit to Northeast Corridor riders, that would be expected to be in the range of 2-3 minutes per trip for those trains experiencing the additional station stop.

With respect to bus ridership, the project is estimated to derive approximately 83% of its users from bus diversions, approximately 9,470 round trips per day. This would reduce corridor NYC bus ridership by approximately 22%. The expected bus service reduction accounts for the projected travel time loss for remaining riders. The significant ridership loss, accompanied

by revenue loss and anticipated service cutbacks, would also adversely impact the bus companies serving the corridor, along with their employees. The impact would be most significant in the case of those long haul operators that are still in a solvent condition.

The stated project cost of \$47.8 million is based on preliminary estimates only. Also the project as stated herein does not take into consideration requirements for additional rolling stock to accommodate the projected added daily ridership of approximately 10,680 persons (bus plus auto diversions) in 1985.

Based on the preceding, the Secaucus Transfer project is not recommended for inclusion in Transpac at this time. Preliminary analysis indicates that disbenefits far outweigh the minimal time savings to users. However, the "Trans-Hudson Rail Operations Planning and Market Analysis" study includes the project within the scope of its alternatives analysis. The study is scheduled for completion in the spring of 1979. The project should be reexamined at that time to determine whether in fact it has merit.

PRIORITY VI PROJECTS
HIGH COST PROJECTS OF SIGNIFICANT BENEFIT

TABLE VI

PRIORITY VI, HIGH COST PROJECTS OF SIGNIFICANT BENEFIT

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>1985 Estimated Avg. Daily Pass. Trips</u>	<u>Cap. Cost (1978 \$) Per 1985 Daily Trips</u>	<u>Rank</u>	<u>Remarks</u>
NJCL Lakewood Ext.	84.2	57.8	12,300	\$ 4,699	1B	Final operational considerations are not as yet firm. Rail operations plan required.
PATCO W. Berlin Ext.*	96.4	58.7	7,600	\$ 7,724	2C	Capital/operational costs need updating. Patronage needs update. Connector highway implication needs to be addressed.
PATCO Atco Ext.	193.4	117.7	9,600	\$ 12,260	3C	Same as for W. Berlin Extension.
Major Commuter Rail Station Improvements	n.a.	n.a.	73,400	n.a.	4C	Project needs development.
Bayonne L.R.T.	83.8	58.4	22,500	\$ 2,596	4C	Project, as currently defined, has numerous drawbacks. Requires further development to determine if redefinition will improve the concept.
Secaucus Conn.	156.0	104.5	31,200 (25,300 NJ)	\$ 3,349	5C	Preliminary study results indicate low return on investment and possible significant disbenefits. Results of detailed analysis required. Project cost does not include cost of cars required for electric/non-electric operation, in sufficient quantity to accommodate significant projected bus diversions.

*Cost not included in the total for "C" ranked projects to avoid double counting. Cost of the West Berlin extension included in the Atco extension. Cost of Core Plan included in the sum of the Mt. Laurel and Glassboro extensions.

TABLE VI.(Continued)

PRIORITY VI, HIGH COST PROJECTS OF SIGNIFICANT BENEFIT

<u>Project</u>	<u>Project Cost (Millions)</u>	<u>1978 Cost (Millions)</u>	<u>1985 Estimated Avg. Daily Pass. Trips</u>	<u>Cap. Cost (1978 \$) Per 1985 Daily Trips</u>	<u>Rank</u>	<u>Remarks</u>
PATCO CORE PLAN*	349.3	212.4	17,000	\$ 12,494	6C	Alternatives analysis study in progress. Need results prior to possible further advancement to the projects as stated or in the form of an alternative.
PATCO Mt. Laurel Ext.	572.8	333.3	33,000	\$ 10,100	7C	
PATCO Glassboro Ext.	665.2	387.0	36,390	\$ 10,635	8C	

	<u>Priority VI</u>	<u>Cumulative</u>
Total "A" Ranked Projects	0.0	645.2
Total "B" Ranked Projects	84.2	108.2
Total "C" Ranked Projects	<u>1671.2+</u>	<u>1806.6+</u>
	1755.4+	2560.2+

*Cost not included in the total for "C" ranked projects to avoid double counting. Cost of the West Berlin extension included in the Atco extension. Cost of Core Plan included in the sum of the Mt. Laurel and Glassboro extensions.

Table VI (Continued)

PRIORITY VI TRANSIT GOALS IMPACTS

Project	Auto Diver.	Bus Diver.	Transit Mode			Support Land Use Plans	Promote Joint Develop.	Transit Dependent Mobility	Resident Base For NYC/Phila.	Safety	User Amenities	Environ Impact	User Level of Service
			Travel User	Time Non-User	Saving Avg.								
NJCL Lakewood Ext.	Mod.	Mod.	Mod.	N/A	Mod.	Consistent	N/A	N/A	Positive	Positive	Signif.	Positive	Signif.
PATCO W. Berlin Ext.	Positive	n.a.	Positive	n.a.	n.a.	Consistent	N/A	Positive	Positive	Positive	Mod.	Positive	Moderate
PATCO Atco Ext.	Positive	n.a.	Positive	n.a.	n.a.	Consistent	N/A	Positive	Positive	Positive	Mod.	Positive	Moderate
Major Sta. Imp.	Positive	n.a.	n.a.	N/A	N/A	Consistent	n.a.	N/A	Positive	Positive	Mod.	n.a.	Moderate
Bayonne L.R.T.	Low	Signif.	Mod.	n.a.	n.a.	Consistent	N/A	N/A	N/A	Positive	Signif.	n.a.	Moderate
Secaucus Conn.	Low	Signif.	Small	Sm. Loss	Small	Consistent	N/A	N/A	Positive	Positive	Mod.	n.a.	Moderate
PATCO Core Plan	Positive	n.a.	Positive	n.a.	n.a.	Consistent	Pos.	Positive	Positive	Positive	Signif.	Positive	Signif.
PATCO Mt. Laurel Ext.	Positive	n.a.	Positive	n.a.	n.a.	Consistent	Pos.	Positive	Positive	Positive	Signif.	Positive	Signif.
PATCO Glassboro Ext.	Positive	n.a.	Positive	n.a.	n.a.	Consistent	Pos.	Positive	Positive	Positive	Signif.	Positive	Signif.

Note: N/A = not applicable or marginal
n.a. = not available

NJCL Lakewood Extension - Rank: 1B

Project Cost - \$84.2-million

An electrified Lakewood Extension, including electrification and rolling stock, is ranked first within this priority grouping based upon results presented in the draft final report of the "Improvement and Extension of Commuter Transportation Services in Monmouth and Ocean Counties" technical study, July 1978. The service is estimated to handle 12,300 daily passenger trips in 1985 with roughly 3,600 or more of these due to auto diversion. The project is projected to reduce VMT due both to diversions and shorter station access trips for current rail riders who reside in the inland service area and generally commute to the more northerly non-coastal stations. Due to the rapid growth projected for southern Monmouth and northern Ocean Counties, the new service is not expected to cause either coastal rail or bus diversions in the sense that these services are projected to continue to grow, with 1985 patronages above current levels (in the case of the coastal rail service it was assumed that the line would be upgraded to 60 miles per hour design speed, this work is in progress). By the year 2000, patronage on the Lakewood service is projected to grow to approximately 18,850 daily passenger trips. The report indicates that on a system basis, i.e., bus plus rail, the Lakewood extension "system" including improvement of the existing coastal service as noted above, would produce a lower overall 1985 deficit than continuance of present services. Unfortunately, discrete information isolating impact of the extension itself is not currently available. However, it at least appears reasonable to assume that the extension would not have more than a slight negative impact on deficit at worst and actually should have at least a small positive impact at best.

Although an electrified Lakewood Extension appears to have considerable merit, it was ranked as a "B" level project primarily on the basis of high capital cost per passenger trip (approximately \$4,700 per daily trip) and since existing transit services in the overall corridor can satisfy demand and provide an adequate level of service, at least in the short term, although not at as high a level of service and as efficiently as in combination with the extension. At this time the project is recommended for inclusion in Transpac if funds are available after considering "B" projects in preceding priority groupings. However, it appears that the extension can not be accommodated without funds in addition to Transpac regardless of "A" vs "B" ranking due to its relatively high cost and limited funds available after incorporation of "A" projects in preceding priority groupings.

It should be noted that the Department, at the request of local officials and citizens in Monmouth and Ocean Counties, will reexamine the merits of instituting diesel service to various potential inland points, for future consideration.

PATCO Extension to West Berlin or Atco - Rank: 2C and 3C respectively

Project Cost - \$96.4-million and \$193.4-million respectively

Neither the extension to West Berlin nor the further extension to Atco can be recommended for inclusion in Transpac at this time. First, success of a West Berlin Station is predicated on the construction of a cross-county connector highway which would serve the station from U.S. 30, or beyond, on the south and N.J. Route 73, or beyond, on the north and east. Present access to the proposed station site is inadequate. A determination would have to be made of whether the road project could be initiated early enough to permit either of the extensions to fall within the program time frame, whether funds could be obtained for the connector and whether it would be cost justified on its own, or if not, whether the extension project(s) would still be considered viable. Second, preliminary information indicates that factors influencing both project cost and anticipated patronages may have come into play subsequent to completion of the DRPA technical study that included analysis of these extensions, final report dated December, 1975. This aspect would have to be investigated prior to programming. Third, it appears that regardless of rank within this priority grouping, funds in addition to Transpac would be required due to magnitude of cost, based on available data.

Major Commuter Rail Station Improvements Rank: 4C

Project Cost - Undetermined

The project would be statewide in scope, although every station would not necessarily be included or receive the same level of treatment. The cost element which puts the project in the high cost category is the provision of high level platforms, including canopies and ramps, along with attendant gantlet tracks and signal modifications as necessary. The operationally oriented function of high level platforms is to reduce station dwell time where heavy per train loadings occur, especially when high frequency service is operated, i.e., to maintain desired headways. From an operations standpoint this is not a current factor for New Jersey stations with low level platforms. Therefore benefit derived would fall into the area of passenger convenience and a potential small time savings if in fact dwell time could be somewhat reduced. However, it is recognized that Section 504 regulations, when published, will have a long term impact with respect to provisions requiring full accessibility at "key" stations. This issue will have to be addressed in terms of how and to what extent it will dictate an overall major improvement program, including emphasis on accessibility vs. other types of major station work.

Due to the need for further development, the project is not recommended for inclusion in Transpac at this time.

Bayonne Light Rail Transit - Rank: 5C

Project Cost - \$83.8-million

Benefits derived from the project, extending from Journal Square to West 8th Street, consist of a travel time saving for the estimated 11,250 daily 1985 round trip passengers and a substantial increase in amenities. Examples of time savings, over bus service to Journal Square, presented in the draft final report of the "Transit Service - Bayonne to Jersey City" study, range from 14-minutes with a Broadway and 53rd Street origin to 2-minutes with an Avenue B and 53rd Street Origin. The report states that for trips between Bayonne and Journal Square, 31% of the population of the study area would experience improved transit service. However, service would be equal in convenience compared to existing bus service for 60% of the population and worse for the remaining 9% of the population. This is due to the non-centralized, with respect to the Bayonne peninsula, alignment of the light rail service. For the same reason the service does not appear to be of measurable benefit to the elderly, poor or car-less. Population concentrations of these groups are remote from the line. Also the service does not appear to serve these groups, especially the elderly, too well as to destinations. Again due to alignment, although 83% of the rail trips would be comprised of existing bus users, an extensive feeder service would be required to serve the rail line in order to generate the projected patronage and substantial additional non-feeder service maintained to provide bus-only service. The result is that a bus subsidy deficit increase of \$655,000 is projected in terms of 1975 dollars. The study report indicates an overall system, bus and rail, deficit increase of \$430,000. This assumes a rail service net profit of \$225,000, based on 1974 TNJ Newark Subway operating cost experience. Based on more current, 1977, financial data it appears that this may be overly optimistic.

Considering that the project is not critical in nature i.e., existing adequate service already exists, evidenced in part by the fact that ridership is estimated to be comprised of approximately 94.5% of existing transit riders, and the preceding discussion, it is not recommended for inclusion in Transpac at this time. It is not necessarily unacceptable for an improvement project to result in increased subsidy. However, it is acceptable only if within reason and if benefits are significantly increased, normally in terms of added patronage and/or justifiable existing ridership level of service increase. In this instance, 69% of service area population either receive no time-savings benefit or accrue disbenefit from the project over existing conditions. It is recommended that alternative proposals or modifications to the current proposal, e.g. alignment, be explored in order to arrive at a more cost effective and overall beneficial Bayonne-Jersey City improvement.

Secaucus Connection - Rank: 6C

Project Cost - \$156.0-million

Preliminary results from the Trans-Hudson Rail Operations Planning and Market Analysis Study indicate that: Average time saving for the approximately 15,600 round trip users (1985) of 4-minutes per trip; average time loss for the approximately 41,000 impacted non-users (bus plus rail) of approximately one-half minute per trip; 78 percent of users from bus diversion with a corresponding drop of 28% in total NYC bound bus corridor ridership and; estimated 1985 auto diversions of 940 per day. Based on the

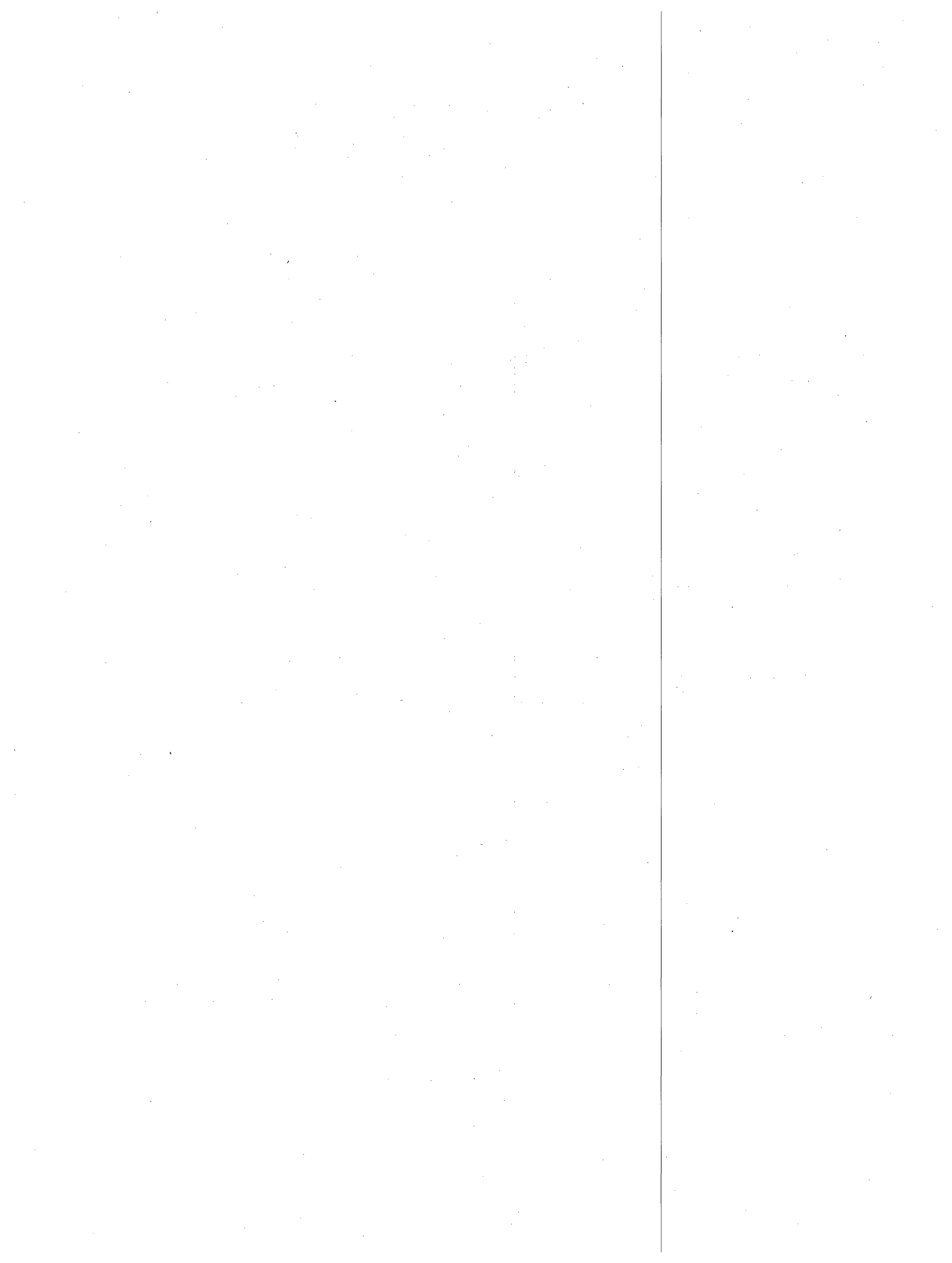
high project cost, low relative user benefit and non-user disbenefits, and the severe financial implications for presently solvent bus operations in the corridor and corresponding impact on employees regardless of solvency consideration, the project is not recommended for inclusion in Transpac at this time. It should be reevaluated when detailed analysis data is available from the Trans-Hudson study, scheduled for completion in the Spring of 1979. It should be noted that the project, regardless of rank within this priority group, does not appear capable of being accommodated within Transpac due to its high cost. Funding beyond Transpac would be required. It should be further noted that the stated project cost does not include the purchase of rolling stock, capable of electric/non-electric operations, in sufficient quantity to handle the projected patronage. Preliminary order of magnitude estimates indicate that the purchase of 125 GTE's would cost approximately \$243-million. Also not included are modifications to tracks, signals and traction power system on the Corridor, and at Penn Station, NYC in order to expand peak hour capacity to 26 trains. These improvements are contained in the Kearny Connection project since plans have indicated that it would be constructed first.

PATCO Core Plan Extensions, Mt. Laurel Extension and Glassboro Extension -

Rank: 7C, 8C, 9C respectively

Project Cost - \$349.3-million, \$572.8-million, and \$665.2-million respectively

Neither the PATCO Core Plan nor the Mt. Laurel and/or Glassboro extensions can be recommended for inclusion in Transpac at this time. The Delaware River Port Authority (DRPA) is currently engaged in an UMTA funded alternatives analysis study to determine specifically what form the expansion of transit services should take. No realistic judgement can therefore be made concerning project programming until the results of the alternatives analysis are known. The study is scheduled for completion in approximately 2-years. As currently stated, one or more of the projects can not be realistically accommodated within Transpac regardless of rank within this priority grouping due to the magnitude of cost involved. Funding in addition to Transpac's ceiling would be required.



CHAPTER III

RECOMMENDATIONS FOR THE TRANSPAC PROGRAM

Public Input on the Preliminary Transpac Recommendations

The preliminary Transpac recommendations were subject to the scrutiny of the public, planning organizations and elected officials. Numerous comments and suggestions were received. The majority were of a positive nature. With regard to the criteria and methodology used in the project evaluation and ranking process, no criticism was received and a number of respondents explicitly supported the approach. With very few exceptions, negative comments pertained to what was not included in the program rather than the projects that were recommended. That is, Transpac did not accomplish enough for the particular geographical area of interest to the respondent. The suggested remedy was generally to do less elsewhere in the State. We concur that Transpac does not satisfy even the State's short-range transit improvement needs. The recognition of this fact is apparent in the State's current attempt to use transportation bonds, discussed later in the chapter, to provide additional short term funding. However, regarding Transpac itself, project selection must be made on an objective statewide basis, not from a regional/local perspective. Project selection must basically be a function of relative immediacy of need and public benefits vs. cost. This is not meant to imply that additional projects that were suggested did not have value. On the contrary practically all were meritorious and are being considered beyond Transpac. For example, the proposed transportation bond issue includes a number of projects suggested by the public, such as: bus shelters; bus and rail park and ride facilities; bus stop signs; transit marketing program; and joint development urban initiative projects. Likewise, the initiation of suggested major projects such as the Kearny Connection and PATCO expansion are included in the State's 7-year Capital Program. Other recommended major projects are being considered for future implementation, subject to relative priorities and funding levels.

One frequently expressed comment was the need for increased bus service, especially of a local nature, in lightly populated areas. It will therefore be discussed in some detail here. It was suggested that the bus purchase provide for fleet expansion instead of only replacement. In order to receive UMTA funds to expand the bus fleet it would be necessary to specifically justify why the expansion is needed. Such justification would normally be in the form of a presentation of results or an in-depth, service area specific, study. At present, there is no tangible evidence to indicate the need for a statewide fleet expansion. An attempt to purchase additional buses as part of the statewide package would delay the immediate objective of fully modernizing the existing fleet. It should be noted that more buses will actually be acquired than will be replaced, since replacement is to be on a seat-for-seat rather than a bus for bus basis. New transit buses generally have 47 seats as opposed to 53 seats in the buses to be replaced. In addition, the exact placement of the buses is subject to change, as the public transportation needs of the State change. We are not "locked" into an allocation based on current identified needs. Along that line, one of the conclusions of the Transportation Efficiency and Effectiveness study, scheduled for completion this winter, may be that service can be provided with little or no additions through route rationalizations and shifts in the existing fleet. This is an important consideration since an expanded

fleet implies that operating cost, and therefore subsidies, will increase in direct proportion to the increase.

One other suggested project that requires individual discussion, in that it impacts several regions, is the purchase of dual-mode locomotives. This equipment would be capable of operating on diesel power and electrical power. The purpose of acquiring this type of equipment would be to permit direct access to Penn Station, NYC from non-electrified rail lines. Diesel powered locomotives are not permitted in tunnels in Manhattan. Candidate rail lines would include the Hoboken Division diesel service lines (construction of the Secaucus Connection required), the Raritan Valley Line and the North Jersey Coast Line (Bay Head diesel service). However, there are a number of issues that need to be resolved before the proposal can be given future consideration. First, it would be necessary to determine the technological aspects of the equipment with respect to cost of production and maintenance, reliability, performance characteristics and compatibility with existing equipment in a "mixed" service. Second, a determination of added cost due to rehabilitation and related work in the tunnel and its vicinity is required. Third, depending on the number of added peak-hour trains arriving at Penn Station, a determination of the extent of required capital improvements to increase capacity would have to be made. Fourth, the expressed opinion of FRA that additional traffic to NYC would require construction of a new high level bridge over the Hackensack River must be resolved. Fifth, and perhaps most important, the entire question of how future NYC slots are to be allocated among all possible lines, electrified and non-electrified, must be resolved.

Based on the aggregate of inputs received, we are confident that the approach used to evaluate and rank projects and the resulting preliminary recommendations were acceptable to the majority of the public in light of the funding constraints involved. Therefore, the same evaluation approach was used herein to arrive at the recommended Transpac program. There is some difference from the preliminary recommendations, but the changes followed from the evaluation process rather than arbitrary methods. The following section presents the results of that process.

Transpac Program Recommendations

Once projects were ranked within priority groups, the last step in arriving at a recommended Transpac program was to examine the results in view of funding constraints and perform any fine tuning that was required.

Projects contained within Priority Groups I and II (those essential for maintenance of service and to complete initiated projects) accounted for \$556.3 million. Since these two groups are considered to have absolute priority, all projects are recommended for Transpac inclusion, leaving a total of \$43.7 million available for projects in following priority groups.

Within Priority Groups III and IV (low cost user oriented and low cost operations oriented) there were a total of four "A" ranked projects, i.e., Hoboken Terminal Improvements, Montclair Connection - Phase II, Exact Fare Route Bus Fare Boxes and Bus Service Vehicles. The total cost of these projects was estimated at \$14.9 million. All projects are recommended for Transpac inclusion, reducing remaining available funds to \$28.8 million.

The only remaining "A" ranked projects fell in Priority group V (moderate cost Projects). The Camden Transportation Center (\$19.0 million) was ranked first and the Kearny Connection (\$55.0 million) second. The Camden Center is recommended for Transpac inclusion. Although the Kearny Connection's evaluation indicated that it was a meritorious project, it can not be recommended for Transpac at this time due to funding constraints. Inclusion of the Camden Transportation Center reduces total available funds to \$9.8 million.

The only "B" ranked project that could be included within the remaining available funds would be Phase III of the Newark Subway Modernization (\$4-million). The project (basically high level platforms) was ranked "B" on the basis of its being amenities oriented rather than being required to provide a high level of service. It was recommended for Transpac inclusion if funds were available and after considering "B" projects in subsequent priority groups as to relative merit. It should be noted that the project falls into the same category of improvement as the "Major Commuter Rail Stations Improvements" (Priority VI). Likewise, Section 504 regulations, when published, will have the same general impact with respect to full accessibility at "key" stations. Therefore, it appears that Section 504 issues for both commuter rail and the Newark subway need to be resolved within the context of a statewide system rather than on a mutually exclusive basis. In particular, the level of effort required and potential funding sources need to be determined.

Considering the preceding, it was determined that the remaining \$9.8-million should be used for options other than Phase III of the Newark Subway. A policy decision was made by the Department to reserve \$6.0-million for preliminary engineering and design associated with development of Port Authority Transit Corporation (PATCO) rapid rail line extensions. PATCO projects evaluated were not included in the recommended program due to their stage of development and funding constraints. However, it was determined by the Department that although construction of the selected alternative would be funded outside of Transpac, it is necessary to initiate engineering/design within the Transpac time frame to ensure timely project advancement. This is particularly important with respect to avoiding high project cost escalation through inflation.

With regard to the remaining \$3.8-million available, a Departmental decision was made to hold the amount in reserve as a partial contingency against the potential impact of Section 504, as it will relate to bus accessibility. At this time it is not known whether the extent to which the buses to be purchased will have to be wheelchair accessible. As mentioned in the bus purchase project description (Appendix "A"), the estimated project cost does not include wheelchair lifts. The incorporation of a lift would increase the unit cost of a bus by at least an estimated \$10,000, based on recent price information.

Table VII presents the recommended Transpac program, with projects arranged in final priority order (high to low), except for Priorities I and II in which ranking does not apply. Priority I projects are shown grouped according to type of project, e.g. rolling stock purchases or rehabilitations, with total cost likewise aggregated by type project, for clarity. Project by project costs may be found in Table I. It is believed that these recommendations represent the most viable, realistic and beneficial projects that could be selected given the pool of quantifiable projects available for consideration. It can be seen that the bulk of the recommended program lies within the area of "necessities" related to existing

TABLE VII

RECOMMENDED TRANSPAC PROGRAM

<u>Project Description</u>	<u>Preliminary Cost Estimate*</u> <u>(\$-millions)</u>
<u>Priority I & II Projects</u>	
Purchase 1100 Air Conditioned Buses (replaces buses over 12-years old as of Jan. 1980)	138.7
Newark Subway Moderization (includes station rehabilitation, new cars and right-of-way improvements)	36.9
Raritan Valley Equipment and Right-of-Way Upgrade (includes new cars and locomotives, station restoration and ROW improvements from Raritan to Newark)	86.1
Station Restoration and Parking	18.8
Other Rail Fleet Improvements (includes modification and rehabilitation of Arrow I and II cars, 20 additional Arrow III's, NJCL equipment purchase, RDC fleet rehabilitation and 4 cab cars for the Pascack Valley Line)	120.7
Systemwide Track Rehabilitation	52.0
NJCL Sig/Comm. and Bridge Rehabilitation	13.0
Railroad Equipment Maintenance Facilities at Sunnyside	14.0
Major Railroad Equipment Repair Shop - Design and Land Acquisition	4.0
Additional Work on NJCL Electrification project	9.1
Additional work on Erie Lackawanna Reelectrifi- cation Project	63.0
Subtotal Priority I and II Projects	556.3

*Includes cost escalation based on further
project development commencing in 1979.

TABLE VII (Continued)

<u>Project Description</u>	<u>Preliminary Cost Estimate*</u> <u>(\$ - millions)</u>
<u>Priority III - VI Projects</u>	
Hoboken Terminal Improvements	2.0
Montclair Connection (Direct Rail Access to Newark, Boonton Line)	7.8
Bus Exact - Fare Boxes	3.1
Bus Service Vehicles	2.0
Camden Transportation Center	19.0
PATCO Extension, Preliminary Engr./Design	6.0
Bus Wheelchair Accessibility Contingency	3.8
Sub Total, Priority II - VI Projects	43.7
<u>Total Program Cost</u>	600.0

*Includes cost escalation based on further project development commencing in 1979.

services rather than in the area of new - start or expansion type projects. Priority I projects in aggregate account for \$484.3 million or approximately 81 percent of the program. All projects in this group fall into the categories of rolling stock purchase/rehabilitation and station/ROW improvements. Priority II projects (Reelectrification of the Morris and Essex lines of the Hoboken Division and Electrification of the North Jersey Coast Line to Long Branch) correspondingly account for \$72.1 million or approximately 12 percent of the program. It should be noted that the Morris and Essex Reelectrification project, including the purchase of new rolling stock, would be considered a Priority I project, if it were not already in progress, since the reelectrification and car purchase is required for maintenance of level of service. Priorities I and II, combined, comprise approximately 93 percent of the program, an investment of \$556.3 million. In the aggregate, the projects will insure the New Jersey Commuter of; modern, reliable, air-conditioned buses throughout the State; reliable, attractive and air-conditioned rail cars (operating on improved right-of-way where required) and; attractive and serviceable stations currently owned by New Jersey. By definition, these projects were considered to be of the utmost importance in preserving and enhancing the State's public transportation system and therefore are recommended as projects which must of necessity be included in Transpac. The remaining 7 percent, \$43.7 million, of projects from priority groups III through VI and the contingency for bus wheelchair accessibility further the development of the State's public transportation system beyond current levels of service for the transit user and provide for operational improvements.

In short, although Transpac is an essential first step in satisfying the State's public transportation needs, it is not the complete solution. As previously noted, over 2.5 billion dollars in quantifiable projects and an additional number not so quantified were identified. For the fulfillment of the majority of "new service" needs it will be necessary to look beyond the current program. This is also true for the completion of the NJCL electrification project and continuation of needed rehabilitation programs initiated under Transpac but which require additional funding, e.g., the rail station restoration/parking and systemwide track rehabilitation projects. In recognition of the need for additional funds in the short range, the State is proposing a \$475-million transportation bond issue, of which \$150-million would be for public transit. It is anticipated that the bond funded transit program would cover 4-years, starting in FY80.

It is recognized that the Transpac recommendations represent the program at only one point in time and that in order to be sensitive to changing needs over the life of the program it must be capable of a degree of evolution. As existing projects are developed, and new ones emerge, reevaluations and evaluations should be an integral part of an ongoing programming process. This does not imply that the recommended program should be looked upon as a "wish list" to be arbitrarily changed at will without due cause. To do so would be contrary to the best interests of New Jersey and to UMTA policy. It does recognize that critical needs, the treatment of which should not be delayed, could arise. As an example, adequate and efficient bus maintenance facilities are vital to the State in terms of protecting its investment in new rolling stock and in insuring reliable service for New Jersey's transit users. However, the recommended program does not include projects addressing maintenance facilities at this time since the related technical study to identify needs in this area is in progress but is not as yet sufficiently advanced to provide program input. The results of this study should be closely evaluated,

especially in terms of any critical needs that may be identified. Second, there is the possibility that a given project(s), within the initial Transpac program, may be unavoidably delayed or deferred, due to external forces, during the course of program implementation. Therefore, viable alternative projects should be available for substitution if the need arises. Finally, Transpac UMTA funding constraints are for the short-term only. Likewise, short range State funds, in the form of the previously mentioned bond proposal, are being sought. Continued UMTA participation beyond the immediate program package is expected. Maintenance of an ongoing evaluation/programming process is essential to help ensure an efficient, responsive and fiscally sound approach to transit development in New Jersey.

APPENDIX A

Project Descriptions

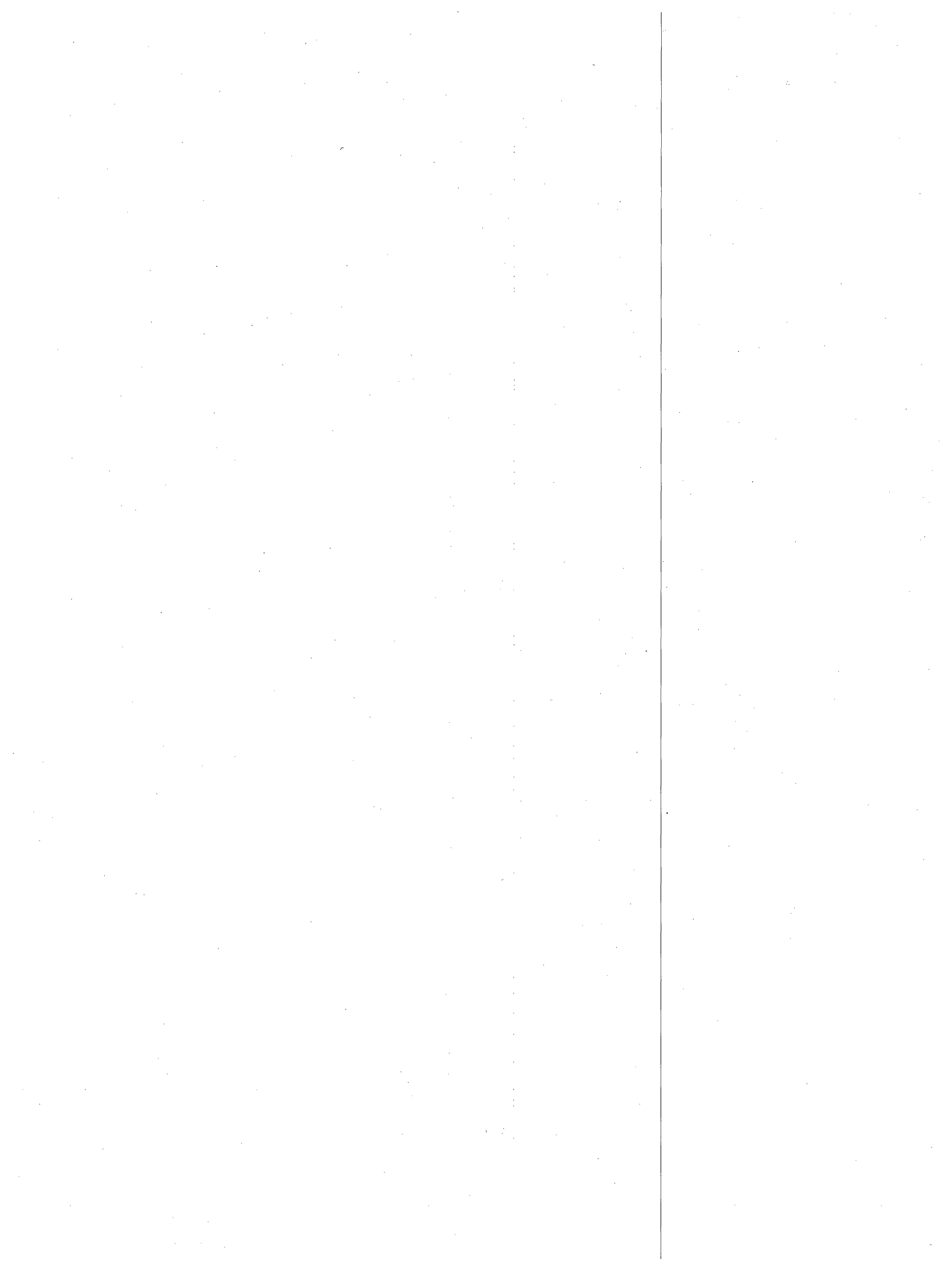
(Includes descriptions, benefits, disbenefits, status, and data sources)

CONTENTS

	<u>Page</u>
• Priority I Projects - Projects Required for the Continuance of Essential Services at Current Levels of Service	A - 1
• Priority II Projects - Projects Required to Complete Capital Improvement Efforts that Have Been Initiated	A -15
• Priority III Projects - Low Cost User Oriented Projects	A -20
• Priority IV Projects - Low Cost Operations Oriented Projects	A -28
• Priority V Projects - Moderate Cost Projects of Significant Benefit	A -32
• Priority VI Projects - High Cost Projects of Significant Benefit	A -42

PRIORITY I PROJECTS

**PROJECTS REQUIRED FOR THE CONTINUANCE OF
ESSENTIAL SERVICES AT CURRENT LEVELS OF SERVICE**



Bus Purchase

Project Cost - \$138.7-million

Description

Purchase of approximately 1100 buses and related parts approximately one-third of which will be forty-foot transit coaches and two-thirds of which will be forty-foot commuter coaches for bus companies throughout the State. The buses will replace the peak-period fleet, 12 years old or older as of January 1, 1980. It is intended that the buses will have a kneeling capability but will not be wheelchair lift-equipped. However, it is understood that USDOT 504 regulations, when published, may impact accessibility requirements of the purchase. It should be noted that the replacement will not be on a one for one basis, that is rather than purchasing a quantity of new buses equal to the quantity of buses being replaced it is based on seating capacity. Since the new buses have fewer seats than many of the old buses, there will be a larger number of new buses compared to those being replaced.

Benefits

- . Replaces equipment which has reached or exceeded its economic life.
- . Replaces non-air conditioned buses with air-conditioned buses.
- . Increased passenger comfort.
- . Increased operational reliability.

Project Status

Grant application in preparation

Primary Data Sources

- . NJDOT Bureau of Motor Bus Operations, September, 1978.

Raritan Valley Upgrade - Phase I

Project Cost - \$71.2-million

Description

Phase I improvements to the Raritan Valley Line include the following:

1. Equipment - Purchase of 10 diesel locomotives and 65 passenger cars, including spares. Fifty-two of the cars will be trailers, the remaining 13 will be cab control cars. All trains will be operated in push-pull service. Longer consists will contain a cab car at a mid train location, as well as at the end.

2. Stations - Improvements will be made to the 14 stations in the heaviest utilized portion of the Raritan Valley Line between and including Raritan and Roselle Park. Accessibility related improvements will include platform resurfacing and patching, platform lighting, platform edging and raising of platforms to appropriate low level height. Safety related improvements will include, but not be limited to: safety striping, walkway, stairway and intertrack fence repairs.

Benefits

- . Preservation of existing capital investment.
- . Prevention of deterioration of service.
- . Increased safety and comfort for the current ridership of approximately 13,400 passenger trips per day.
- . More reliable service.
- . Reduced operating and maintenance costs.
- . Replacement of 53 coaches with an average age of 51 years and 22 coaches with an average age of 30 years.
- . Replacement of mostly non-air conditioned equipment with air-conditioned equipment.
- . Provision for anticipated growth through 1985.

Project Status

Grant application submitted to UMTA for approval.

Primary Data Sources

- . Capital Grant Application to the Urban Mass Transportation Administration for Phase I of the Raritan Valley Upgrade, March, 1979.

Purchase of 20 MU Cars for Service on the Northeast Corridor

Project Cost - \$28.9-million

Description

This project involves the purchase of 20 Multiple Unit (MU) cars to be used for Conrail service on the Northeast Corridor (NEC). Twelve of the cars are needed to maintain an adequate number of spares and eight are required to accommodate the projected growth in ridership to the year 1985. This assumes that Arrow II's will be reseated in a 3-2 configuration. Otherwise an additional 11 cars would be required.

Benefits

- . Maintenance of an adequate number of spare cars.

- Provision of a higher level of service for the current Conrail daily round-trip ridership of approximately 18,150 and the projected 1985 round-trip ridership of 19,860, which includes a current peak period eastbound ridership of approximately 11,420 and a projected 1985 peak period ridership of 12,630 respectively.

Project Status

The need for this additional equipment has been identified.

Primary Data Sources

- Preliminary data from the "Trans-Hudson Rail Operations Planning and Market Analysis" study (IT-09-0037/69), to be completed in the Spring of 1979.
- NJDOT Bureau of Rail Equipment, August, 1978.

Pascack Valley Improvements - Equipment Purchase

Project Cost - \$3.7-million

Description

Purchase of four push-pull cab control cars, each with a seating capacity of 104 passengers, for operation on the Pascack Valley Line. The equipment is necessary to assure an adequate ratio of spare cars and to accommodate a projected increase in ridership of 8.3% by the year 1985.

Benefits

- Maintain level of service for the approximate 6,400 daily passenger trips now on the Pascack Valley Line and provide for normal growth through 1985.
- Maintain required ratio of spare cars.
- Improve operational reliability.

Project Status

The need for the equipment has been identified

Primary Data Sources

- Preliminary data from the "Trans-Hudson Rail Operations Planning and Market Analysis" study (IT-09-0037/69), to be completed in the Spring of 1979.
- Raritan Valley Upgrade - Phase I Draft Application, August, 1978.

Arrow I and II Rehabilitation and Compatibility Modifications

Project Cost - \$34.0-million

Description

Total overhaul of the 33 Arrow I Multiple Unit Cars which includes traction motors, trucks, air brakes, air conditioning and heating systems, rewiring the electrical system, new lighting, new weatherstripping, replacement of toilets, replacement of broken windows, and repairs to the exterior body. The 70 Arrow II cars will have their doors rehabilitated, have the existing 2-2 seating replaced with 3-2 seating, have the existing corner lavatory replaced with a lavatory accessible to the handicapped located near the center doors and have certain minor safety-related modifications made. Both Arrow I's and II's will have modifications made to couplers, door control system, electrical switches, and wiring to permit compatibility with Arrow III cars.

Benefits

- . Preservation of existing capital investment.
- . Increased safety and comfort for approximately 18,150 daily Conrail round trip passengers on the Northeast Corridor.
- . Reduced operations and maintenance costs.
- . Permits greater flexibility in the use of the Multiple Unit equipment on all the electrified commuter rail lines in the State.
- . Reseating will permit more intensive use of the equipment.

Project Status

Preparation of grant applicaiton is underway.

Primary Data Sources

- . NJDOT Bureau of Rail Equipment, August, 1978.
- . Conrail Passenger On and Off Counts, May, 1977.

Rail Diesel Car (RDC) Rehabilitation

Project Cost - \$1.1-million

Description

Rehabilitation of 10 Rail Diesel Cars (RDC's) consisting of the following: new air conditioning units, repairs to brakes, truck overhaul, new toilets,

repairs to electrical equipment, rewiring, repairs to drive shaft, new weather-stripping, new marker lights, repairs to air compressors and a general cleaning and repainting.

Benefits

- . Prevention of further deterioration of equipment.
- . Increased passenger safety and comfort.

Project Status

The project cost is based on a preliminary assessment of needed repairs to rehabilitate the cars.

Primary Data Sources

- . Letter from Conrail to M. E. Robins dated February 21, 1978.

North Jersey Coast Line (NJCL) Equipment Purchase

Project Cost - \$53.0-million

Description

Purchase of approximately 8 diesel locomotives and 50 coaches to replace old and unreliable equipment, for service on the non-electrified portion of the NJCL. These equipment totals include spares for shopping, which when combined with projected MU service to Long Branch, provide for the expected growth in ridership to the year 1985. The locomotives will have electric head-end power and will be equipped with cab signals and speed control for operation on the Northeast Corridor. The coaches will be air-conditioned, have 3-2 seating and features to accommodate the elderly and handicapped such as lavatories, wheelchair locks, handrails, dedicated seating, door chimes and blinking lights and center door openings to facilitate access by the handicapped at high level station platforms.

Benefits

- . Improved reliability and efficiency of operations.
- . Reduction in equipment maintenance costs.
- . Improved passenger amenities and safety.

Project Status

The need for acquiring this equipment has been identified.

Primary Data Sources

- . NJDOT Public Transportation Staff, May, 1979.

Newark Subway - Phase II

Project Cost - \$21.3-million

Description

- Trolley Wire Replacement - replace existing 2/0 wire with 4/0 wire of a figure-8 section and attach catenary messenger wire to insulator clips to eliminate bouncing and its consequent service interruptions.
- Purchase 15 new light rail vehicles with a seating capacity of approximately 470 persons and parts.
- Rearrangement of signals to provide safe braking distances between the new vehicles.
- Support Vehicles - Conversion of an existing PCC vehicle to accommodate a rail grinder, a portable compressor, welding unit and sand blasting unit; conversion of an existing PCC vehicle to accommodate a dumpster, hydraulic crane and salt distributor.
- Modifying the maintenance shop including an inspection pit, high pressure water system for cleaning the cars and car wash area screening.

Benefits

- Reduced operating and maintenance costs.
- Higher level of service for the approximate 9,200 current daily passenger trips and the 12,000 daily passenger trips projected for the year 1985.
- Replacement of equipment that has reached the end of its economic life.

Project Status

An initial scope of work for the project has been completed.

Primary Data Sources

- Capital Grant Application by the City of Newark, 1976.
- Newark Transit Feasibility Study by Parson, Brinckerhoof, Quade & Douglas, 1972.

Systemwide Track Rehabilitation

Project Cost - \$52.0-million

Description

Approximately a four-year program for the rehabilitation of trackage on Conrail's Hoboken and New Jersey Divisions. The project cost shown represents New Jersey's contribution to the program. Conrail will bear the cost of rehabilitation attributable to its freight operations. The project includes rail replacement, surfacing, tie renewal and switch replacement as required. Interlockings and yards are included to enhance system performance. Finally, the project will provide for necessary trackwork and facilities improvements at outlying rail equipment maintenance facilities.

It should be noted that the project represents only the "immediate need" portion of what must become an ongoing rail maintenance program, in order to prevent New Jersey's rail lines from falling back into its present state of decay.

Benefits

- . Preservation of the existing capital investment and prevention of deterioration of service.
- . Increased passenger safety and comfort for the approximately 36,000 daily round trip riders using the lines in question.
- . Increased operational reliability and efficiency.

Project Status

Conrail has submitted a proposed five-year track rehabilitation program to NJDOT. The general scope associated with outlying rail equipment maintenance facilities has been determined in conjunction with the NJDOT Rail Maintenance Facilities Study but details require further development.

Primary Data Sources

- . Conrail Atlantic Region Five Year Track Program, transmitted to NJDOT on October 23, 1978.
- . Preliminary cost estimates for outlying rail equipment maintenance facilities, transmitted to NJDOT by Seelye, Stevenson, Value & Knecht, Inc. on February 7, 1979.
- . NJDOT Bureau of Capital Facilities, February, 1979.

Raritan Valley Upgrade - Phase II

Project Cost - \$14.9-million

Description

Phase II of the Raritan Valley Upgrade consists of the rehabilitation of

existing tracks, and the 14 passenger stations between and including Raritan and Roselle Park as well as improvements to the stations' parking facilities. Also included are signals and trackwork to double track the Aldene and Hunter Connections (between the former CNJ and Lehigh Valley, and Lehigh Valley and NEC, respectively).

Benefits

- Preservation of existing capital investment.
- Improved operations capability/flexibility.
- Higher level of service for the current ridership of 13,400 passenger trips per day and the projected 1985 ridership of 15,700 passenger trips per day, including the avoidance of delays due to the present Aldene/Hunter single track connections.

Project Status

An initial scope of work and cost estimate have been developed.

Primary Data Sources

- Port Authority of New York and New Jersey, August, 1978.
- Conrail Passenger On - Off Counts, May, 1977.
- Preliminary data from the "Trans-Hudson Rail Operations Planning and Market Analysis" study (IT-09-0037/69), to be completed in the Spring of 1979.

Newark Subway Improvements - Phase I

Project Cost - \$15.6-million

Description

Phase I improvements to the Newark Subway consist of the following elements:

- 1) Track improvements on existing 4.3 miles of right-of-way from Penn Station, Newark to Franklin Avenue, Newark consisting of new continuous welded rail, switches, cross-overs and track frogs; replacement of approximately half the ties; removal and replacement of ballast; regrading and cleaning of drainage facilities.
- 2) Power improvements consisting of new rectifiers.
- 3) Addition of A.C. electric service to all stations and the maintenance shops at Penn Station.
- 4) Improvements to existing maintenance shops including car lift, new air compressors and new lighting system.

- 5) Improvements to 4 subway stations consisting of new escalators at Penn Station, repairs to stairways, handrails, benches, new lighting, etc.
- 6) Improvements to 3 at-grade stations consisting of refinishing steel-work, replacing wooden roofs with corrugated roofs, new shelters, etc.
- 7) Improvements to 4 depressed stations similar to the improvements to the at-grade stations plus repair of all stairways and replacement of railings and handrails on stairways and fences along overhead bridges and retaining walls.
- 8) Improvements to all exterior stations consisting of replacement of all existing wood and concrete benches with new butcher block type benches, replacement of all existing concrete platforms, and a new lighting system with high pressure sodium fixtures.
- 9) Six new sump pumps for tunnel areas.
- 10) New sewage ejector pumps for the rest rooms in the maintenance shop.
- 11) Replacement of fencing along the right-of-way.
- 12) Installation of a public address system.
- 13) Initiation of a public information and promotion program.

Benefits

- . Preservation of the existing capital investment.
- . Prevention of further deterioration of service.
- . Increased safety and comfort for the approximate 9,200 daily riders currently using the subway and the projected 1985 level of 12,000 daily trips.
- . Reduction of operating and maintenance costs.
- . Replacement of rail 40 years old.

Project Status

The grant application to UMTA is being prepared.

Primary Data Sources

- . Draft Grant Applications.
- . Sverdrup and Parcel Consultants, August, 1978.

North Jersey Coast Line Signals, Communications and Bridge Improvements

Project Cost - \$13.0-million

Description

This project includes upgrading the existing signal and communication system by replacing overhead wiring with underground cable, providing capability for reverse signaling and future Centralized Train Control (CTC) operation and installing a proprietary phone system. Approximately 23 bridges and various culverts will be rehabilitated or replaced. These improvements are for the line north from South Amboy to Rahway and South from Long Branch to Bay Head. The project includes work on the Raritan Bridge but does not provide for its replacement. Improvements between South Amboy and Long Branch are included in the electrification project.

Benefits

- . Improved reliability and efficiency of operations.
- . Improved passenger safety.

Project Status

The need for making these improvements has been identified.

Primary Data Sources

- . NJDOT, Public Transportation Staff, May, 1979.

Rail Station Restoration/Parking

Project Cost - \$18.8-million

Description

This project consists of making improvements to platforms, lighting, the interior and exterior of station buildings, pedestrian bridges and tunnels and parking where necessary at passenger stations on the State's commuter rail lines. Does not include NEC Amtrak stations or Raritan Valley Line stations being restored as part of the Raritan Valley Upgrade Project.

Benefits

- . Preservation of existing capital investment.
- . Prevention of further deterioration of service.
- . Increased safety and comfort of present and future passengers using the stations.

Project Status

The project is to be based on the New Jersey Rail Stations Modernization Study which is now at the point where a statewide

comprehensive and uniform program for station improvements is being developed and an order of priority established. It should be noted that the \$18.8-million allotted to the project would cover only the higher priority stations needing immediate attention. Funding for lower priority stations will be sought outside of Transpac, ie. the proposed Transportation Bond Issue in which funding has been reserved to finance further station improvements.

Primary Data Sources

- . Conrail Five Year Station Rehabilitation Program, August, 1978.
- . New Jersey Rail Station and Bus Terminal Modernization Study.

Railroad Equipment Maintenance Facilities at Sunnyside

Project Cost - \$14.0-million

Description

Construction of a new service and inspection facility for joint use by NJDOT and Amtrak. The new facility will be constructed in a currently unused area of Sunnyside Yard and will be used to provide running maintenance and monthly inspections for NJDOT MU equipment as well as Amtrak equipment. It should be noted that the indicated project cost represents New Jersey's share of an overall facilities improvement project to be undertaken at the joint Amtrak/NJDOT facility in conjunction with the Northeast Corridor Improvement Project (NECIP).

Benefits

- . Improved maintenance capability for the State's current NYC oriented MU fleet and provision of added capacity required for additional MU's to be acquired in conjunction with the NJCL electrification extension to Long Branch and the additional cars to be acquired for the NEC. The facility, shared jointly by NJDOT/Amtrak, is a main storage and maintenance facility for trains operating into Penn Station, NYC. Existing parts storage space is seriously inadequate and the facility barely adequate for major component changeout. Physical plant dimensional limitations also pose restrictive working conditions for Jersey Arrow maintenance. In short, existing conditions are not adequate for efficient maintenance of the current fleet. Upon acquisition of additional rolling stock for the NJCL and NEC, the existing facility would be totally inadequate with respect to both capacity and efficiency.

Disbenefits

- . No disbenefits identified.

Project Status

The need and general scope of the project have been identified in

conjunction with the New Jersey Rail Equipment Maintenance Facilities Study. A preliminary cost estimate has been made, however, detail and refined costs need to be developed. The project can be advanced within the Transpac time frame. Amtrak has indicated that from the standpoint of their own needs, they desire to quickly advance development of facilities improvements at Sunnyside Yard.

Primary Data Sources

- . NJDOT Bureau of Capital Facilities, February, 1979.
- . Preliminary cost estimates from the New Jersey Rail Equipment Maintenance Facilities Study by Seelye, Stevenson, Value & Knecht, Inc., February, 1979.

Major Railroad Equipment Repair Shop - Design and Land Acquisition

Project Cost - \$ 4.0-million

Description

This project represents the first step in making improvements to existing rail equipment maintenance facilities to permit adequate maintenance of and major repairs to the fleet of new Arrow III MU cars that will operate on the Hoboken Division. The entire improvement project will entail the provision of a major repair/rebuild shop, stores, track and turnouts, site preparation and utilities, a new power plant and oil separator, and an upgrade of the existing car wash. These improvements are required because the existing facilities are inadequate to provide proper maintenance of the New Arrow III MU equipment. Preliminary engineering and design and acquisition of land necessary to accommodate the improved facilities is treated here as a separate project because the State may have to act soon to purchase the property in order to reserve it for this desired use.

Benefits

Upon completion of all elements of the total improvement project the following benefits will be realized:

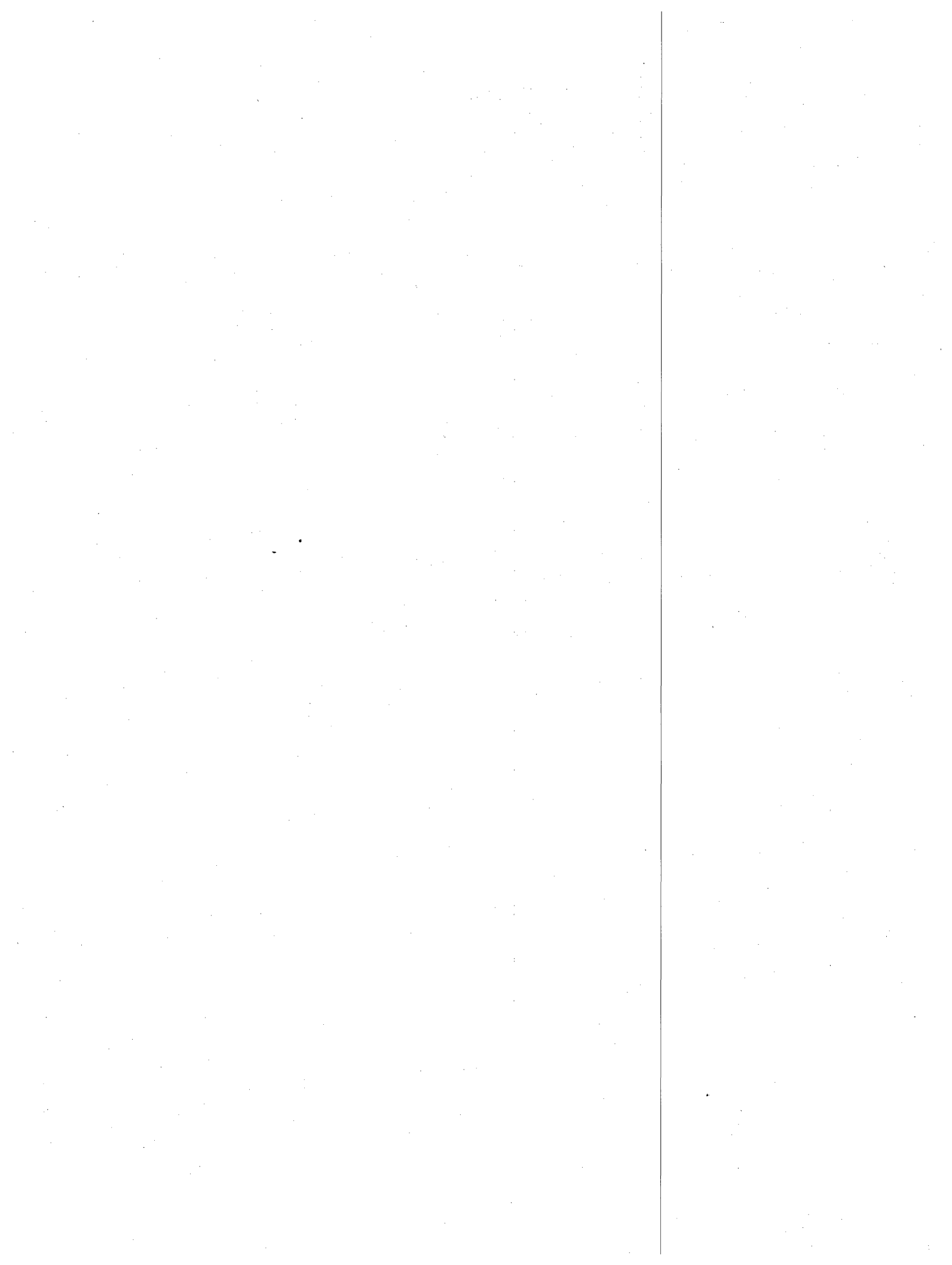
- . Replacement of structures almost 50 years old which are in varying stages of physical deterioration.
- . Will provide increased spacing between tracks to accommodate Arrow III MU cars.
- . Will provide facilities to permit maintenance of diesel locomotives now maintained at Elizabethport due to the lack of proper facilities at Hoboken. This would eliminate the costly deadheading of approximately 33 diesels to Elizabethport for inspections and repairs.
- . Would permit the eventual phasing out of the Elizabethport shop resulting in greater economies of scale.

Project Status

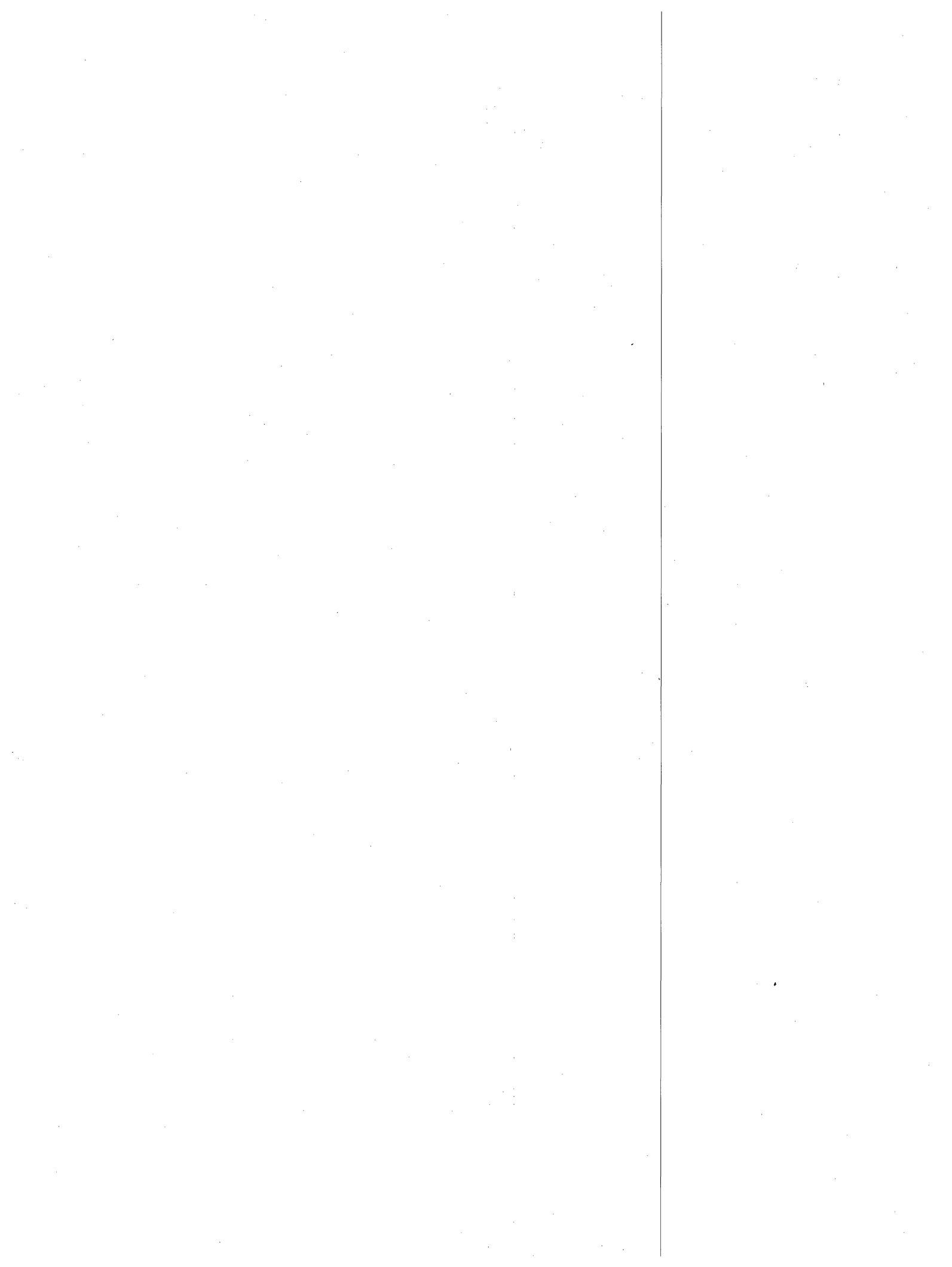
Preliminary recommendations and cost estimates are available. Final detailed recommendations and breakdown of cost estimates from the New Jersey Rail Equipment Maintenance Facilities Study are anticipated in the Spring, 1979.

Primary Data Sources

- NJDOT Bureau of Capital Facilities, February, 1979.



PRIORITY II PROJECTS
PROJECTS REQUIRED TO COMPLETE CAPITAL IMPROVEMENT
EFFORTS THAT HAVE BEEN INITIATED



Additional Work on North Jersey Coast Line (NJCL) Electrification Project

Project Cost - \$9.1-million

Description

The overall project for the extension of electrification from South Amboy to Long Branch includes the following items; Purchase of 50 multiple unit Arrow III cars; construction of a catenary system and necessary substations; modernization of the communication system; trackwork to permit speeds up to 60 mph; parking facilities and; terminal and storage facilities for the multiple unit fleet.

Presently authorized funding (existing UMTA grant plus local matching share) for the project is \$137.5-million. However, total project cost is estimated at approximately \$191-million, leaving a shortfall of \$53.5-million. The costs increase is due partially to inflation and partially to necessary changes in project scope. In that the project falls into the Priority II category, it was originally intended to fund the entire shortfall under Transpac, as was shown in the March, 1979, "Preliminary Recommendations for the Transpac Program" draft report. Preliminary recommended projects in Priorities III through VI were predicated on that assumption.

Immediately following the development of the preliminary recommendations, it was determined that a reassessment of NJCL improvement program priority needs was in order. It indicated that improvements were needed on the non-electric portion of the line if acceptable service standards were to be realized. The recommended NJCL program sequence following from the reassessment was that coincidental with after the line being electrified to Matawan (Phase I of the overall electrification project), the following improvements should be made prior to extension of electrification to Long Branch if available funds were limited: Purchase new locomotives and coaches for the Bay Head diesel service and; improve signals/communications, rehabilitate bridges and stations over the entire line as required. The total cost of all improvements, including the existing grant and the electrification to Long Branch, is estimated at \$265-million.

Funding allocated to NJCL projects, including the \$53.5-million in Priority II, in the preliminary recommended Transpac program totaled \$80.1-million. Adding the \$137.5-million committed prior to Transpac yields \$217.6-million. This means that an additional \$47.4-million would be needed to complete all recommended NJCL improvements. It was determined that the additional funds could not come from Transpac without seriously damaging its viability. It is recommended that the Transpac allocation for the NJCL be held at \$80.1-million, with the additional funds to be sought from other sources. The following table is a summation of the resulting overall NJCL improvement program funding approach:

<u>Transpac Projects</u>	<u>Cost (millions)</u>
. New diesel locomotives and coaches	\$53.0
. Signals/communications and bridge rehab.*	\$13.0
. Bay Head Yard improvements (Systemwide track rehab.)	\$ 1.0
. Station restoration/parking	\$ 4.0
. Additional electrification work	<u>\$ 9.1</u>
	\$ 80.1
<u>Previous Committed Funds</u>	\$137.5
<u>Additional Funds to be sought to Complete Electrification</u>	<u>\$ 47.4</u>
Total Improvement Program Cost	\$265.0

From the preceding table it can be seen that \$9.1-million in Transpac funds are still available to be applied to the extension of electrification to Long Branch. Although the amount is modest, it is important that it be applied to the project in order to ensure continuity in the construction program until the additional funds required to complete electrification to Long Branch are obtained.

The results and recommendations of the reassessment were presented at a public meeting held in Little Silver, Monmouth County on May 10, 1979.

Benefits

- . Required for continuation of the electrification project. Justification for the project contained in approved grant application.

Project Status

The application as currently approved calls for the terminus of electrification at Red Bank. Awaiting approval for changing the terminus location to Long Branch.

Primary Data Sources

- . NJDOT Capital Grant Application. Project Correspondence. NJCL Reassessment conducted by NJDOT, Public Transportation Staff, April, 1979.

* Rahway to South Amboy and Long Branch to Bay Head. South Amboy to Long Branch funded under the electrification project.

Additional Work on Erie Lackawanna Reelectrification Project

Project Cost - \$63.0-million

Description

This project consists of completion of the reelectrification of the former Erie Lackawanna Morristown Line, Gladstone Branch and Montclair Branch. It includes conversion of the existing 3Kv D.C. traction power to 25Kv, 60Hz A.C. power, reconstruction of 16 electrical substations, signals and communications alterations, reinsulation of the catenary system at the Hoboken, Summit, Morristown, Gladstone and Dover Yards, expansion and modification of the Gladstone Yard and parking areas, expansion of the Dover Yard, closing of the Morristown Yard and improvements to the Hoboken maintenance facilities. Also included is the purchase of 180 multiple unit cars.

The above stated project cost also includes 8.3 million dollars for required modifications to the 180 Jersey Arrow III's. In that these modifications are not treated within the scope of the current reelectrification grant application, this element is attached as a separate "project" for information purposes.

Benefits

- . Required for project completion. Project justification contained in approved grant application.

Project Status

No substantive changes from currently envisioned project scope. Major change from original, and subsequently modified, grant application is deferral of extension of electrification to Netcong and the establishment of regional park and ride facilities in the Netcong and Gladstone/Peapack area.

Primary Data Sources

- . NJDOT Capital Grant Application and project correspondence.

Additional Work on Erie Lackawanna Reelectrification Project - Modifications to Arrow III MU Cars

Project Cost - \$8.3-million (included in total Reelectrification Completion Cost)

Description

Modifications to the 180 Arrow III MU cars that will operate on the Hoboken Division Morris and Essex Lines consist of the following:

1) In order to allow operation on the Morris and Essex Lines upon completion of the reelectrification project, a one-time modification must be made to allow the cars to run on the new 25 Kv, 60 Hz electrical system. The cars are currently equipped to operate on the Northeast Corridor's (NEC) 11.5 Kv, 25 Hz power system.

2) Automatic phase break transition capability.

Should the Kearny Connection be built, to permit operation on the NEC the cars would have to be equipped with cab signal and speed control as well as train performance recorders, to meet FRA requirements for NEC operation. This cost is included in the cost of the Kearny Connection project, not here.

Benefits

- . Item 1) is required for operation on the M & E.
- . Item 2) is to prevent excessive wear of catenary due to "missed" manual phase break negotiation.

Project Status

Preliminary specifications have been developed.

Primary Data Sources

- . NJDOT Bureau of Rail Equipment, August, 1978.

PRIORITY III PROJECTS
LOW COST USER ORIENTED PROJECTS

Hoboken Terminal Improvements

Project Cost - \$2.0-million

Description

The project consists of the following two components. First, rehabilitation of the bus terminal which would accommodate all bus loading/unloading at ground level and would have access to the PATH station via an entry stairway near River Street. Depot facility would include a passenger waiting room and dispatcher area. Second, development of taxi and private car access. Hudson Place will be realigned in order to provide (1) a convenient taxi stand and (2) a turn around area for private cars that either pickup or discharge passengers at the Transportation Center. In addition, short term parking spaces especially reserved for kiss-and-ride vehicles would be located on either side of the River Street Observer Highway connection adjacent to both the bus depot and the PATH entrance.

Benefits

- . Inter-city buses operated by Transport of New Jersey enter the Center from Observer Highway, discharging passengers along the northerly edge of the ELRR train shed (in the area east of River Street). Almost all buses then make a full turn-a-round and board passengers at the roofed-over shelter immediately south of Hudson Place opposite River Street and exit back towards Observer Highway; buses to the Port Authority Terminal in New York City load passengers near the easterly end of Hudson Place next to the ELRR train shed.
- . The southerly curb of Hudson Place—near the TNJ bus boarding area—serves as a taxi stand for more than 30 cabs parked perpendicularly to the curb. Farther west, between River Street and Hudson Street, the southerly curb of Hudson Place is used as a bus terminal stop by the Washington Street independents who provide in-city service along Washington Street. Private car passenger pick-up and drop-off also occurs along Hudson Place, frequently from traffic lanes when buses and taxis are using the curb lane.
- . In addition to its commuter related activities, Hudson Place also carries through traffic. The mixture of through traffic in the midst of commuter services adds confusion and safety problems and prevents the Transportation Center from serving commuters properly.
- . The proposed project will assist in alleviating the aforementioned conditions as well as providing a generally higher level of service to users.
- . The project will contribute toward the overall anticipated rehabilitation and improvement effort connected with Hoboken Terminal.

The effort would have significant urban area revitalization aspects as well as improving commuter transportation.

Disbenefits

- . No significant disbenefits have been identified.

Project Status

The technical study entitled "Hoboken Transportation Center" was completed in 1977. Basic terminal rehabilitation work is in progress under an Economic Development Administration grant. The project contained herein, i.e. bus depot improvements and taxi/kiss-and-ride area, is recommended in the technical study report. It is not provided for under the EDA grant. It should be noted that the successful accomplishment of the overall improvements recommended for Hoboken Terminal and environs, both transit and non-transit related, lies in a joint development approach. That is, all parties with an interest in the revitalization and improvement of the area should actively cooperate and pool funding resources.

Appropriate parties and potential funding sources appear to include: UMTA, FHWA, FAUS, PATH, EDA, Historic Preservation, HUD, Green Acres, and NJDOT.

Primary Data Sources

- . Final Report, "Hoboken Transportation Center", technical study (IT-09-0014), February, 1977.

Newark Subway - Phase III

Project Cost - \$4.0-million

Description

Phase III improvements to the Newark Subway include the construction of high level platforms, the installation of sound absorbing material in tunnels, and the installation of at least one automatic changemaker, one transfer dispenser and one exact change automatic turnstile at each station entrance.

Benefits

- . Higher level of service for the 12,000 daily passengers projected for the year 1985, in the areas of passenger convenience, amenities and safety.

Disbenefits

- . No significant disbenefits have been identified.

Project Status

- . An initial scope of work for the project has been completed.

Primary Data Sources

- . Capital Grant Application by the City of Newark, 1976.
- . Newark Transit Feasibility Study by Parson, Brinckerhoff, Quade & Douglas, 1972.

I-295 Park and Ride Rail Station

Project Cost - \$3.2-million

Description

Construction of a new station along the Northeast Corridor at Cornell Heights in Hamilton Township between the existing Trenton and Princeton Junction Stations. The proposed station would be built to accommodate 1,860 automobiles. The project includes a station building with passenger processing facilities, two high level platforms 850 feet long by 12 feet wide and associated canopies. An undertrack tunnel, elevators and stairways are proposed to provide access to both platforms. The indicated project cost of 3.2 million dollars is for the station building, high level platforms and related facilities only.

Construction of the parking facility, including land acquisition, and station access is assumed fundable through Interstate funds. The associated cost is estimated at 3.9 million dollars, with the total facility cost therefore 7.1 million dollars.

Benefits

- . Parking demand at Princeton Junction and Trenton stations is estimated to be 3,360 vehicles in 1980 and 4,410 vehicles by the year 2000. Current combined parking capacity is 2,554 spaces. It is estimated that the I-295 park and ride would initially divert approximately 775 autos from the two stations (400 from Princeton Junction and 375 from Trenton).
- . Significant auto circulation and access restrictions currently exist for the Trenton and Princeton Junction station facilities. Expansion of parking capacity at either site, coupled with normal growth of the surrounding area, will create unacceptable levels of auto congestion on the existing road network.
- . Potential for related economic growth, e.g. small commercial establishments, moderate sized light industrial, etc., in the area served by the park-and-ride. The project is supported by Hamilton Township, within which the site is located.

Disbenefits

- . The additional station stop would cause a small travel time loss for commuters boarding at Trenton station.
- . Strong opposition to the project by the City of Trenton which contends that the project would have serious detrimental impact on the City. This has not been substantiated.

Project Status

Study conducted by the NJDOT Bureau of Common Carrier Planning has been completed. Analysis to effectively determine the detailed operational impacts posed by construction of the facility would be needed.

Primary Data Sources

- . "I-295 Park and Ride Staff Recommendations", August, 1977, Bureau of Common Carrier Planning (BCCP). Excerpt from draft study report, December, 1977, BCCP.

Bay Head Rail Park and Ride Facility

Project Cost - \$0.3 - \$0.9-million

Description

Study work conducted by the NJDOT Bureau of Highway Planning resulted in two alternative improvement schemes. The first was for a 120 space lot, with room for expansion, located on a 3-acre parcel (railroad ROW) located on the south side of Osborne Avenue, diagonally across the tracks from the existing station area. Implementation cost is estimated at \$0.9 million. The second was for a 115 space lot, with no room for expansion, located off East Railroad adjacent to the railroad tracks. Implementation cost is estimated at \$0.3 million. It should be noted that "Improvement and Extension of Commuter Transportation Services in Monmouth and Ocean Counties" technical study report, July 1978, indicated a need for expanded parking, the extent of which would vary according to level of improvement of the line (recommended for FRA Class 3, i.e., 60 mph design speed) and whether a Lakewood extension is constructed. The Osborne Avenue site is recommended.

Benefits

- . The existing parking area is clearly inadequate. The lot has a potential capacity of 25 spaces but its poor condition precludes its achievement. Field survey indicated overflow of an estimated 40 - 50 cars on to the local street and two presently vacant lots.

Disbenefits

- . A community involvement meeting was held on June 28, 1977. It was

reported that there was, "_____ unanimous opposition voiced at the community involvement meeting _____". Bureau of Highway Planning analysis indicated that: The project would improve traffic flow on Osborne Avenue by removing commuters' cars now parking there; that access routes would be adequate with respect to available capacity and; that the additional traffic should have no appreciable adverse affects on accidents at relevant intersections. However, these views were apparently not shared by the community.

Project Status

It does not appear that the project can be successfully advanced until community support is obtained. Also, the subject of the number of initial parking spaces required and extent of provision for future expansion appears to require evaluation in light of what improvements to North Jersey Coast service are contemplated. It should also be noted that the project would be eligible for FAUS, as well as UMTA, funding.

Primary Data Sources

- . NJDOT Bureau of Highway Planning analysis material, 1977. "Improvement and Extension of Commuter Transportation Services in Monmouth and Ocean Counties" (IT-09-0034/37), Draft Final Report, July 1978.

Newark Bus Transit Security

Project Cost - \$0.5-million

Description

Purchase of 156 2-way mobile radio units for all buses assigned to TNJ's Orange Garage, 3 base stations and 2 console units.

Benefits

- . Potential to reduce level of transit crime in Newark through faster police response time and the greater possibility of apprehending offenders.
- . Possible benefit to residents along the bus routes by giving drivers capability of reporting fires, traffic accidents, etc. to local authorities.
- . Potential to increase ridership through greater public confidence with respect to security.
- . Operational benefit with respect to faster response time to breakdowns.

Disbenefits

- . No disbenefits identified.

Project Status

NJDOT "Transit Crime Study" completed. Report recommends that the project be monitored in order to determine whether, and to what extent, crime is reduced and/or patronage increased. Project may be eligible for other than UMTA capital grant funding due to its nature.

Primary Data Sources

- Final Report, "Transit Crime Study", June 1977, NJDOT in cooperation with SLEPA.

Purchase of Vehicles to meet the Transportation Needs of the Elderly and Handicapped

Project Cost - \$9.8-million

Description

Purchase of wheelchair-lift-equipped vehicles for use providing transportation services to the State's elderly and handicapped citizens. These vehicles would be in addition to vehicles procured through the 16(b) (2) program for private non-profit organizations. The project would provide for the purchase of approximately 60 vehicles per year through 1985 (total of 420 vehicles).

Benefits

- Provide additional mobility for the State's elderly and handicapped citizens.

Disbenefits

- The project was initially conceived as a FAUS funded effort whereby initiative and distribution of vehicles to various agencies would lie at the local level. This approach appears to be more productive than UMTA funding at the State level.
- The need for the vehicles has not been established per se. Utilizing FAUS or other non-UMTA funding would permit development of needs and related budgets on a year-by-year basis rather than having to commit a lump sum of funds for the overall program period, before actual needs are established.
- It has not been established that UMTA (other than 16 (b) (2) or FAUS funding is required to meet vehicle acquisition needs, i.e. other available funding sources should be explored.

Project Status

- Conceptual.

Primary Data Sources

- . NJDOT Office of Special Programs.
- . Transpac Task Force input, August, 1978.

High Occupancy Vehicle Lane - George Washington Bridge Approach

Project Cost - \$0.2-million

Description

Carpools would be allowed to travel on the shoulder of the expressway (eastbound) approaching the bus stop area and from there restricting the use of a travel lane approaching the toll booths. Reservation of these areas will require signing and pavement striping identifying their location and the minimum vehicle occupancy of 3 persons for eligibility during the hours of 7 to 9 a.m.

Benefits

- . It is estimated that travel time for vehicles in the priority lane will be shortened from one to ten minutes.

Disbenefits

- . Traffic through the bus stop may require its movement (space is available for its relocation). The cost to do so is estimated at approximately \$300,000.
- . Potential for accident increase due to weaving conflicts.
- . More appropriately FAUS fundable, especially considering that the project only serves carpools.

Project Status

NJDOT consultant completed study in June 1977.

Primary Data Sources

- . NJDOT "Rt. I-80/95 Bus Carpool Lane Study Results" 1977.

PRIORITY IV PROJECTS
LOW COST OPERATIONS ORIENTED PROJECTS

Montclair Connection - Phase II

Project Cost - \$7.8-million

Description

Completion of construction of a 2,000 ft. double track rail link on a new alignment which will connect the Montclair Branch and the Boonton Line of the Hoboken Division at Montclair. Once completed Boonton Line passengers will have access to the Newark CBD.

Benefits

- Completion of the project will permit discontinuance of Boonton Line service east of Montclair, i.e., all Boonton Line trains would be routed via the Montclair Branch. This operational modification will result in a significant net cost savings. It is estimated that net annual operational savings (allowing for revenue loss) in 1978 dollars would be approximately \$131,000. A capital cost saving of approximately 0.5 million dollars (1978 dollars) would also be realized due to station and bridge rehabilitation on the Boonton Line east of Montclair which would not have to be undertaken. Assuming a project life of 50-years, the present worth of total net savings (present worth of 50-year operational net savings, plus present worth of station/bridge rehabilitation cost, less present worth of the capital cost of the Montclair Connection project) is estimated at 8.4 million dollars.
- It should be noted that the estimated revenue loss (\$55,000 in 1978), due to patronage losses from Glen Ridge to Arlington stations, is overstated if looked at from a "transit system" basis. That is, most rail ridership losses would switch to bus, not auto. Strong competitive bus service already accounts for the minor patronage at stations east of Montclair. Presently there are approximately 130 all-day eastbound boardings at Glen Ridge (most of whom could switch to Montclair Branch service) and a combined total of approximately 170 all-day east bound boardings from Rowe St. to Arlington stations (most of whom would switch to bus). It should also be noted that estimated operational cost savings were based on existing conditions. It does not take into account the possible additional saving which would accrue if the operating deficit of the Hoboken Division were computed using the Rail Services Planning Office (RSPO) Standard.
- The immediate benefit to the traveling public will be the availability of a new rail route providing direct access from the Boonton Line service area to the Newark CBD. The Boonton Line currently has a large commuter shed but does not serve Newark. Current daily round trip ridership west of Montclair is approximately 2,520 riders. Access to the CBD should directly result in ridership growth over time. Specific projections are not currently available. In the advent of the

Kearny Connection, the Montclair connection would permit Boonton Line riders to transfer to M&E trains at Newark for access to Penn Station, NYC. This would also have a positive impact on ridership.

- Will have a positive impact on Vehicle Miles Travelled reduction in that current Montclair Branch riders who live west of Montclair could board at closer Boonton Line stations.

Disbenefits

- The project involves the relocation of approximately 60 families. The physical dwelling units in question are old and in decay.
- Cessation of Boonton Line service east of Montclair would impact approximately 300 current daily round trip riders. However, as previously stated, approximately 130, from Glen Ridge, could divert either to Montclair Branch stations or bus and the remainder to bus.

Project Status

Phase I of the Montclair Connection project, involving that part of the connection within the confines of the Lackawanna Plaza Urban Renewal Project and involving a new Montclair Station site is ready for initiation. A preliminary application for Phase II was submitted to UMTA in April, 1971.

Primary Data Sources

- Phase II Preliminary Application dated April 29, 1971
- TSRPC Interim Technical Report, "An Evaluation of the Montclair Connection," June, 1967.
- "Location Study for EL Connection in Montclair, NJ," Goodkind & O'Dea, Inc., October, 1967.
- Current Boonton Line Station counts.
- NJDOT internal memorandums and NJDOT consultant reports.

Purchase of Fare Collection Equipment for Exact Fare Bus Routes

Project Cost - \$3.1-million

Description

The project consists of the acquisition of fare collection equipment for exact-fare routes of subsidized carriers Statewide. The approximately 712 fare boxes to be purchased would be specified to permit a later adaptation to electronic data retrieval and display.

Benefits

- Expand the number of existing routes using exact-fare boxes.

- . Replace obsolete, unsecured fare boxes.
- . Provide fare boxes for routes currently operating without fare collection equipment.
- . Reduce crime.
- . Increase revenue collection assurance.

Disbenefits

- . No disbenefits identified

Project Status

An initial estimate of the number and type of fare boxes has been completed.

Primary Data Sources

- . NJDOT Bureau of Motor Bus Operations, August, 1978.
- . NJDOT Bureau of Equipment, August, 1978.

Purchase of Bus Operations Support Vehicles

Project Cost - \$2.0-million

Description

Purchase of tow trucks, service trucks, delivery vans, operations cars and executive cars to replace those in the fleets of subsidized carriers Statewide that have reached the end of their economic life. Involves a total of approximately 151 vehicles.

Benefits

- . Replace antiquated fleet of service vehicles.
- . Improve operations and maintenance capabilities of bus operators.

Disbenefits

- . No disbenefits identified.

Project Status

Preliminary specifications have been developed.

Primary Data Sources

- . NJDOT Bureau of Motor Bus Operations, August 1978.
- . NJDOT Bureau of Equipment, August, 1978.

PRIORITY V PROJECTS
MODERATE COST PROJECTS OF SIGNIFICANT BENEFIT

Camden Transportation Center

Project Cost - \$19.0-million

Description

Construction of a coordinated rail rapid transit-bus transfer and terminal facility incorporating the following three major physical elements and improvements:

- 1) Bus Terminal - a consolidated bus terminal and transfer facility with about 18 berths for both long/medium haul and local feeder bus services, with on and off-street loading access.
- 2) Parking Garage - Multi-level parking garage for approximately 680 automobiles directly interconnected with the bus terminal and the passenger concourse serving the rail rapid transit station via direct elevator and stairway access.
- 3) Mass Transit Station and Concourse - a) Addition of a new entrance complex to the existing Broadway PATCO Station incorporating an open, but covered plaza facing Broadway at street level. b) At the concourse, a new PATCO passenger distribution area will be provided with modern facilities for the movement of passengers on and off the PATCO system and to and from buses and the parking garage.

Benefits

- Provision of an attractive, convenient multi-modal transportation center providing service for local, commuter and intercity buses, taxis and the PATCO Rapid Transit Line. Daily passenger movements are estimated at approximately 19,000 (8,700 PATCO, 8,500 PATCO feeder bus, 1,800 other bus) in 1985. Approximately 135,000 annual bus movements are anticipated to be handled at the facility in 1985. If PATCO branch lines to Mt. Laurel and/or Glassboro are constructed in the future, the terminal would also serve as the common focal point of those operations, with a corresponding increase in usage.
- Reduced operational cost to bus operators through economy of scale and more effective space utilization. TNJ and Greyhound presently share a facility. Trailways operates out of a separate location.
- Contribution to the revitalization of the Camden Central Business District (CBD) by providing the impetus for private development through improving the attractiveness of the area and access to it.
- Provide transportation services for traffic generators that are planned or under development within the immediate redevelopment area, most notably: Cooper Medical Center; Veterans Administration Hospital;

Court House Complex; county and city offices; and, new and proposed housing. Camden revitalization efforts are predicted to generate an additional 34,000 - 45,000 daily trips into and out of the Camden CBD.

- . Reduce traffic congestion and alleviate on-street parking problems.
- . Generate new transit ridership through the provision of adequate parking and coordinated transportation service.
- . Better serve the needs of Camden's transit dependents.

Disbenefits

- . Increased traffic on streets adjacent to the terminal, especially during peak travel periods. However, the major streets to be affected are reported as being presently utilized below capacity and should have little difficulty meeting the additional demand.

Project Status

Final application for UMTA funding has been prepared and submitted.

Primary Data Sources

- . Final application of the City of Camden for the Camden Transportation Terminal (UMTA Project No. NJ-03-0018), December 15, 1977.

Kearny Connection

Project Cost - \$55.0-million

Description

Construction program to connect the Conrail Morris and Essex Line to the AMTRAK Northeast Corridor Line in Kearny in order to provide direct access to Penn Station, NYC. Project includes modification to tracks, signals and traction power system on the Corridor and at Penn Station, NYC in order to expand peak hour capacity to 26 trains. Cost also includes modification to Arrow III's required for NEC operation (speed control and performance recorder). The cost does not include the purchase of additional rolling stock that would appear to be required to accommodate patronage generated by auto and bus diversions (estimated at approximately 2900 persons in 1985).

Benefits

- . Elimination of the transfer to PATH at Hoboken for direct access users.
- . An average time saving of approximately 10 minutes per trip for direct access users. Projected 1985 patronage is approximately 9,700 round

trip riders per average weekday (this figure does not include potential Boonton Line transfer users if the Montclair Connection project were implemented). On the basis of a time value of 6 cents per minute, this would represent an annual travel time saving of approximately 3.2-million dollars in 1985. Discounting time loss to non-users (discussed in the following section under disbenefits), net annual system savings is estimated at 2.8 million dollars.

- 1985 auto diversions are estimated at 1,200 per week day.

Disbenefits

- It is estimated that approximately 1,700 of the 9,700 daily round trip users (17.5%) would be due to bus ridership diversions. It is estimated that there would be approximately 1,500 daily corridor bus riders to NYC in 1985 who would not switch to rail. Assuming that bus service would be decreased due to the diversions, it is estimated that remaining bus riders would experience an average time loss of approximately 2 minutes per trip.
- An average time loss of approximately 2 minutes for Hoboken Division M&E rail riders desiring to continue to Hoboken. Projected 1985 patronage is 5,100 round trip riders per day. In the aggregate, it is estimated that average annual travel time loss to "non-users" (bus & rail) would be approximately 0.4-million dollars.

Project Status

Technical Study, "Trans-Hudson Rail Operations Planning and Market Analysis" (IT-09-0037/69) to be completed in the Spring of 1979. "Direct Rail Access Project" study completed. Preliminary application submitted.

Primary Data Sources

- Preliminary data from the "Trans-Hudson Rail Operations Planning and Market Analysis" study (IT-09-0337/69), to be completed in the Spring of 1979.
- "Direct Rail Access Project" study report, June, 1977.
- Port Authority of New York and New Jersey cost estimates.

Purchase of 2-way Radio for Long-Haul Bus Routes

Project Cost - \$20.0-million

Description

Equip approximately 1,723 commuter buses on all long-haul routes (in excess of 20 miles one-way) Statewide with two-way radio equipment and provide dispatching facilities.

Benefits

- . Improve operating procedures by permitting scheduling and bus route assignment modifications to meet variations in demand.
- . Permit more efficient equipment utilization by spreading passenger loading over a number of buses.
- . Minimize delays by rerouting buses to crowded stops and around traffic accidents and delays.
- . Increased passenger and driver security by allowing instantaneous contact to central dispatching for emergency fire or police services.

Disbenefits

- . Possible increase in operating costs.

Project Status

Further study is required to develop criteria for design.

Primary Data Sources

- . NJDOT Bureau of Motor Bus Operations, August, 1978.
- . NJDOT Bureau of Equipment, August, 1978.
- . Port Authority of New York and New Jersey, May, 1979.

Pascack Valley Improvements - Double Tracking and Related Improvements

Project Cost - \$32.1-million

Description

This project consists of the following three elements:

- 1) Trackwork, Signals and Communications - Construction of an additional track along 6.8 miles of right-of-way between the Pascack Valley Line's junction with the Bergen County Line (Mile Post 7.56) and Fairmount Avenue (Mile Post 14.39) and the addition of two passing sidings and altering signals for train control signals over the single track between Fairmount Avenue and Spring Valley, New York.
- 2) Equipment - Purchase of one train set consisting of one diesel locomotive, one cab car and four trailer coaches. The additional train set is needed to provide the increased frequency of service during peak hours and the institution of service during off-peak hours permitted by the completion of double-tracking.
- 3) Expansion of capacity at Woodbine Yard - Construction of an addi-

tional 1,000 feet of track at the Woodbine Yard in Spring Valley, New York to permit overnight storage of the additional train set.

Benefits

- . Higher level of service for the current ridership of approximately 6,400 passenger trips per day and the projected 1985 ridership of 6,900 passenger trips per day(normal growth).
- . Generation of new ridership. However, magnitude unknown, as well as impact on bus operations.

Disbenefits

- . Increased operations and management costs.
- . Probable increased deficit and higher subsidy support.
- . Possibility of serious detrimental impact to profitable, unsubsidized commuter long-haul bus services resulting in the need for subsidy support.

Project Status

A study entitled "Erie Lackawanna Mainline/Bergen/Pascack Corridor Study" (IT-09-0069) involves a marketing and systems analysis effort to evaluate the general demand for rail service in the corridor and how that demand might be served by existing rail lines and passenger services. Work on the twelve-month study was initiated in September, 1978.

Primary Data Sources

- . NJDOT Bureau of Capital Facilities, August, 1978.
- . NJDOT Bureau of Rail Equipment, August, 1978.

EL Electrification - Netcong Extension

Project Cost - \$22.0-million

Description

All electrical, signal, communication and track work necessary to extend electrified service 10 miles from Dover to Netcong. Also included is the development of regional park and ride facilities in the Netcong and Peapack/Gladstone areas and station and parking improvements at Dover.

Benefits

- . Would provide Newark Central Business District (CBD) access i.e., M&E service, for Netcong and Lake Hopatcong stations (a total of approximately 190 current daily eastbound boardings). However, the advent of the Montclair Connection would likewise provide Newark

CBD access.

- Direct access to Penn Station NYC for the two stations in the advent of the Kearny Connection.
- Vehicle Miles Travelled reduction due to passengers in the Netcong/Lake Hopatcong Station service areas, who currently drive to Dover Station to board M&E trains, having a shorter station access trip. However, this would likewise be offset by the Montclair Connection.

Disbenefits

- High capital cost (1978 dollars) per daily passenger trips. Estimated at approximately \$29,792, on the basis of a 1985 daily round trip ridership of 240 (480 daily trips). It should be noted that the projected ridership is on the basis of "normal" growth. It does not take into account possible "added" ridership at the two stations due directly to the improvement. However, the following should be kept in mind. First, a portion of the "added" ridership would represent diversions from Dover Station. Second, a portion of the "added" ridership would be from bus diversions. Possible auto diversions, i.e. new transit riders, would be a small fraction of the preceding. Also the Montclair Connection, if constructed, along with increased service to Netcong (presently only two eastbound a.m. and westbound p.m. trains depart and arrive at Netcong respectively) would tend to stimulate the same type of "added" ridership.

Project Status

The Netcong Extension was included in the original NJDOT Morris and Essex Reelectrification UMTA Capital Grant Application but subsequently deferred due to financial constraints.

Primary Data Sources

- NJDOT Capital Grant Application for the Morris & Essex Reelectrification.
- NJDOT/UMTA correspondence and NJDOT memorandums.

Hackensack Meadowlands District Transit

Project Cost - \$19.4-million

Description

Purchase of 15 rail cars and 3 locomotives to operate additional service on the Hoboken Division Bergen County and Pascack Valley Lines as well as the initiation of a shuttle service between Hoboken and the District. Purchase of 20 transit buses for bus routes serving the District from outside and for routes operating within the District. The project was suggested by

the Hackensack Meadowlands Development Commission as an initial measure to satisfy the expected transportation needs of the District. It should be noted that the project cost does not include the cost of double tracking the Pascack Valley Line, which would be required for the operation of additional train sets. The additional cost would be approximately \$26.6-million.

Benefits

- . Five of the cars would provide for existing need and market growth on the Bergen County Line and the Pascack Valley Line.
- . Four cars would accommodate expected increases in daily ridership on the Pascack Valley Line due to work trips to the District.
- . Three of the cars would accommodate expected demand for rail service from Hoboken to the District i.e., reverse commute.
- . Three of the cars would accommodate expected demand by District residents for rail service to New York City.
- . The 20 transit buses would accommodate part of the expected increased peak period demand for bus service to and from the District and within the District.

Disbenefits

- . Increased operations and management costs.
- . Probable increased deficit and higher subsidy.
- . Possibility of detrimental impact on viable long-haul bus operations.

Project Status

The preliminary draft of the Hackensack Meadowlands Transportation Study is completed. Two NJDOT studies impact the proposed services. The "Main/Bergen/Pascack Valley Corridor Study" will evaluate demand and service provision solutions. The 12-month study was initiated in September, 1978. The "Transportation Efficiency and Effectiveness Study", dealing with bus services, likewise a 12-month study is scheduled for completion in December, 1979. A clearer assessment of needs and solutions to those needs, as impacts transit improvements concerning the Meadowlands District, will be possible through the combination of results from the three aforementioned studies.

Primary Data Sources

- . Preliminary Draft of the Hackensack Meadowlands Transportation Study (IT-09-0037), March 1978.
- . Correspondence to NJDOT from Richard Roberts, Transportation Planning Project Manager for the Hackensack Meadowlands Develop-

ment Commission, dated August 23, 1978.

Secaucus Transfer

Project Cost - \$ 47.8-million

Description

Construction of a station and passing tracks at the intersection of the Hoboken Division's Main Line and Bergen County Line with the Northeast Corridor in Secaucus to permit Main Line and Bergen County Line Riders to transfer to Northeast Corridor trains. The stated project cost does not include the purchase of additional rolling stock that would be expected to be required to accommodate patronage generated by auto and bus diversions (estimated at 10,680 persons in 1985).

Benefits

- An average time saving of approximately 2.3 minutes for transfer users with a Penn Station, NYC destination. Projected 1985 patronage is approximately 11,700 round trip riders per average weekday (9,500 for New Jersey). On the basis of a time value of 6 cents per minute, this would represent an annual travel time savings of approximately 872 thousand dollars in 1985.
- 1985 auto diversions are estimated at approximately 940 per weekday.

Disbenefits

- It is estimated that approximately 9,740 of the 11,700 daily round trip users (83%) would be due to bus ridership diversions. This corresponds to a reduction in corridor bus ridership of approximately 22%. It would have the most adverse direct impact on those long-haul operators who are currently profit-making e.g. Short Lines. There would also be a corresponding adverse impact to bus drivers and other bus company personnel.
- An average time loss of approximately 2 minutes for Hoboken Division Main Line/Bergen Co./Pascack Valley rail riders desiring to continue to Hoboken. Projected 1985 patronage is approximately 11,000 round trip riders per day. Assuming that bus service would be decreased due to the large number of diversions, it is estimated that remaining bus riders would experience a slight time loss. It is estimated that there would be approximately 33,900 daily round trip corridor bus riders to NYC remaining in 1985 who would not switch to the rail mode. In the aggregate, it is estimated that travel time disbenefit to "non-users" would be slightly greater than travel time benefit to "users". It should be noted that this does not include travel time disbenefit to Northeast Corridor passengers who would have an extra stop. This disbenefit could be about 2 to 3 minutes.

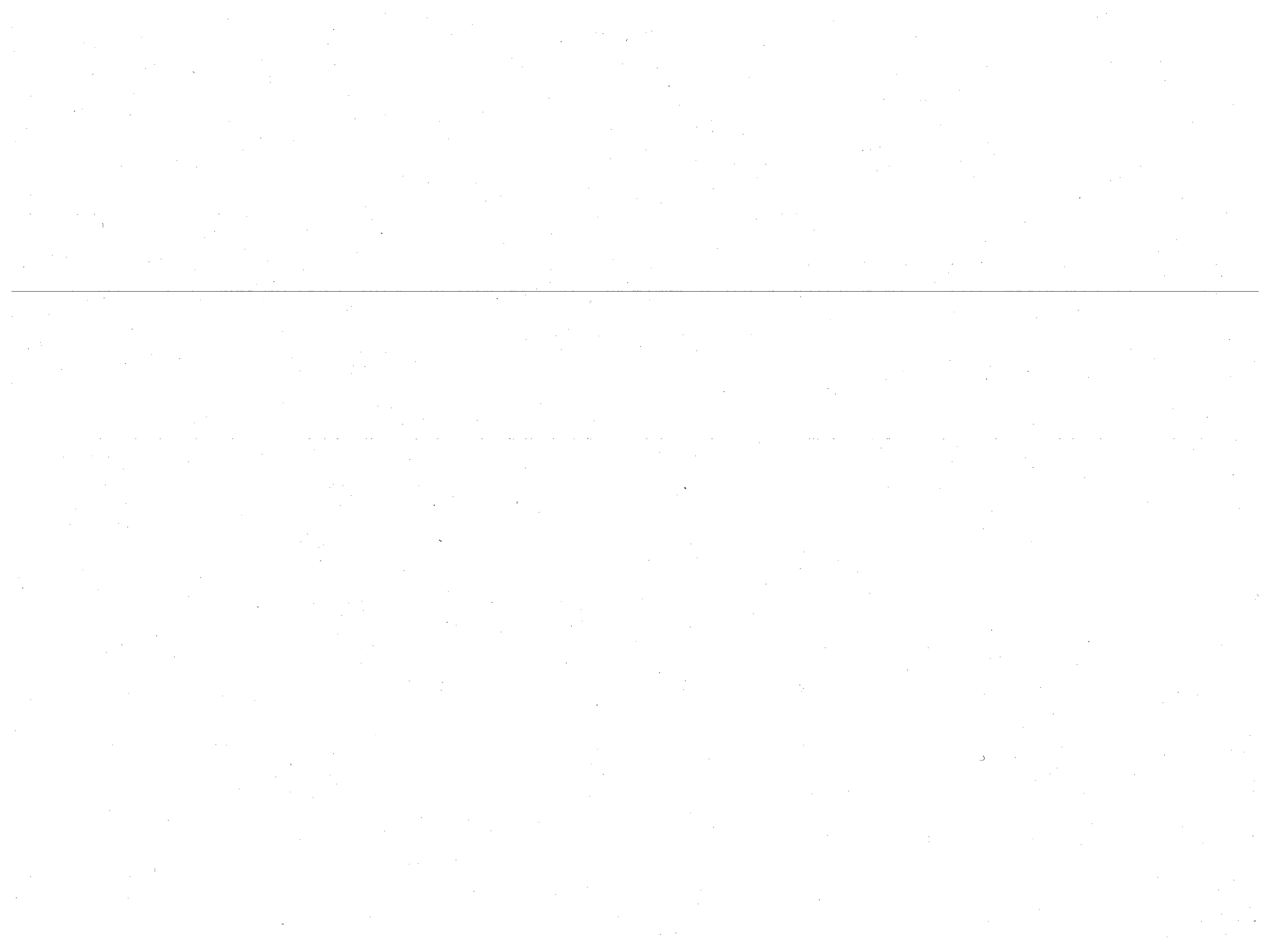
Project Status

Technical study, "Trans-Hudson Rail Operation's Planning and Market

Analysis" (IT-09-0037/69) to be completed in the Spring of 1979.

Primary Data Sources

- . "A Preliminary Analysis of the Ridership, Cost and Benefit For Secaucus Transfer Proposal and Secaucus Direct Rail Access Connection," NJDOT Bureau of Transit Planning, August 17, 1978.
- . Port Authority of New York and New Jersey cost estimates, August, 1978.



PRIORITY VI PROJECTS

HIGH COST PROJECTS OF HIGHLY SIGNIFICANT BENEFIT

NJCL Lakewood Extension

Project Cost - \$84.2-million

Description

Construction of an electrified rail line, over existing rail ROW, from Matawan to Lakewood via Freehold, including four new stations. Project includes the purchase of five electric locomotives and 46 coaches.

Benefits

- . Improved travel time to Newark and New York City, for the estimated 6,150 daily round trip riders in 1985.
- . An estimated auto diversion of approximately 1,800 plus daily round trips.
- . Reduced Vehicle Miles Travelled due to a shorter station access trip for current inland rail users who would switch to the Lakewood extension.
- . Enhancement of county land use and development goals.

Disbenefits

- . Possible relocation of business at proposed alignment in Freehold and impact on YMCA and Girl Scout Camp Sites.
- . The potential negative impacts due to bus diversions and diversions from the existing North Jersey Coast Line are not predicted to have long term impact in that 1985 patronage projections for both bus and coastal rail service are estimated to show gains due to the rapid residential development of the service area.

Project Status

Technical Study, "Improvement and Extension of Commuter Transportation Services in Monmouth and Ocean Counties" (IT-09-0034/37) has been completed. NJDOT is considering alternative services such as diesel for this corridor. Further study of these alternatives is necessary before any recommendation regarding implementation can be made.

Primary Data Sources

- . Draft Report, "Improvement and Extension of Commuter Transportation Services in Monmouth and Ocean Counties," July, 1978.

PATCO Extension to West Berlin

Project Cost - \$96.4-million

Description

A 3.3-mile extension of the Lindenwold High-Speed Line from its present terminus at Lindenwold to West Berlin. Alignment would be along existing Seashore Division right-of-way. Included in the project is a walk-on station facility at Gibbsboro Road, terminal facilities, and 22 new cars.

Benefits

- . Estimated 1978 daily patronage of approximately 3,800 round trip riders added (not line volume) to the PATCO system (1985 projections not available).
- . Reduced travel time for extension riders; more comfortable and convenient trip.
- . Allow "growth" at Lindenwold through reduction of parking demand generated by West Berlin/Gibbsboro Rd. users, i.e., Lindenwold parking presently at capacity.
- . Permit more efficient feeder bus operation.

Disbenefits

- . Success of a West Berlin Station is predicated on the construction of a cross-county connector highway which would serve the station from U.S. 30 (or beyond) on the south, and N.J. Route 73 (or beyond) on the north and east. Present access to the proposed site is inadequate.
- . Estimated that associated feeder bus service orientation would increase the annual bus subsidy by approximately \$205,000 annually.

Project Status

Technical Study, "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009) complete. Preliminary information indicates that factors influencing both cost and patronage may have come into play since the study and that reanalysis is in order.

Primary Data Sources

- . Final Report, "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009), December, 1975.
- . Delaware Valley Regional Planning Commission staff patronage estimates, August 1978.

PATCO Extension at Atco

Project Cost - \$193.4-million

Description

A 6.9 mile extension of the Lindenwold High-Speed Line from its present terminus at Lindenwold to Atco. Alignment would be along existing Seashore Division right-of-way. Included in the project is a walk-on station at Gibbsboro Road, a station at West Berlin, terminal facilities, and 26 new cars.

Benefits

- Estimated 1978 patronage of approximately 4,800 round trip riders added (not line volume) to the PATCO system (1985 projections not available).
- Reduced travel time for extension riders; more comfortable and convenient trip.
- Reduce Vehicle Miles Travelled due to shorter station access trip for current PATCO users from the service area.
- Allow "growth" at Lindenwold through reduction of parking demand generated by current PATCO users from the service area, i.e., Lindenwold parking presently at capacity.
- Permit more efficient feeder bus operation. At present numerous PATCO "feeder" routes continue on to Philadelphia due primarily to PATCO capacity restraints.

Disbenefits

- Success of a West Berlin Station is predicated on the construction of a cross-county connector highway which would serve the station from U.S. 30 (or beyond) on the south, and N.J. Route 73 (or beyond) on the north and east. Present access to the proposed site is inadequate.
- Estimated that associated feeder bus service orientation would increase the annual bus subsidy by approximately \$329,000 annually.

Project Status

Technical Study "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009) complete. Preliminary information indicates that factors influencing both cost and patronage may have come into play since the study and that reanalysis is in order

Primary Data Sources

- Final Report, "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009), December, 1975.
- Delaware Valley Regional Planning Commission staff preliminary corridor patronage estimates, August, 1978.

Major Commuter Rail Station Improvements

Project Cost - Not presently available but would fall in high cost range.

Description

Major station rehabilitation as required. Construction of high level platforms, ramps, and canopies. Expansion of parking facilities as required. This project would be statewide in scope although every station would not necessarily be involved.

Benefits

- . Higher level of service in the area of passenger convenience and safety.
- . Provides accessibility for the elderly and handicapped.

Disbenefits

- . No significant disbenefits identified per se. Only "disbenefit" would lie in the area of cost vs. need, especially in the area of high level platforms, when low patronage is involved.

Project Status

Conceptual on a statewide basis although there are specific stations for which this type of major upgrading has been previously proposed.

Primary Data Sources

- . NJDOT, Public Transportation Staff, May, 1979.

Bayonne Light Rail Transit

Project Cost - \$83.8-million

Description

Grade separated light rail transit line extending from Journal Sq. to W 8th Street in Bayonne via PATH, LVRR National Docks Branch, and CNJ ROW and 15 station locations. Includes the acquisition of 24 Standard Light Rail Vehicles. 1985 patronage estimated at 11,250 round trip riders per weekday.

Benefits

- Reduced travel time for approximately 31% of persons in service area (63% Bayonne, 10% Jersey City). Examples of travel time saving to Journal Sq. over Boulevard bus, are as follows: Broadway and 53rd St., 14 minutes; Avenue C and 27th Street, 6 minutes and; Avenue B and 53rd Street, 2 minutes.
- Auto diversions are estimated at 625 per day in 1985.

Disbenefits

- Travel time increased for approximately 9% of persons in service area (23% Bayonne, 0% Jersey City). No time saving for 60% (14% Bayonne, 90% Jersey City).
- Service does not appear to be of any measurable benefit to elderly, poor or carless due to the alignment of the proposed service.
- 83% of ridership, 18,700 daily trips, from bus diversion. Predicted that system deficit (bus & rail) will increase \$430,000 (1975 dollars) over the current deficit (Bus only deficit increase of \$655,00. Assumes rail makes a \$225,000 profit).
- Due to the non-central alignment of the light rail service, substantial bus service would have to be retained to provide feeder service and to provide supplemental services.

Project Status

Technical Study "Transit Service-Bayonne to Jersey City" (IT-09-0037), completed.

Primary Data Sources

- Draft Final Report "Transit Service-Bayonne to Jersey City", April, 1977.

Secaucus Connection

Project Cost - \$156.0-million

Description

Construction program to connect the Conrail Bergen County, Main and Pascack Valley Lines to the AMTRAK Northeast Corridor Line in Secaucus in order to provide direct access to Penn Station, NYC. Project excludes modifications to tracks, signals and traction power system on the Corridor, and at Penn Station, NYC in order to expand peak hour capacity to 26 trains. This cost is contained in the Kearny Connection project since plans have indicated that it would be constructed first. Project cost does not include the cost of rolling stock capable of electric/non-electric territory operation nor fleet size increase that would be expected to be required to accommodate patronage generated by auto and bus diversions.

Benefits

- . Elimination of the transfer to PATH at Hoboken for direct access users.
- . An average time saving of approximately 4.0 minutes for direct access users. Projected 1985 patronage is approximately 15,600 round trip riders per average weekday (12,660 from New Jersey). On the basis of a time value of 6 cents per minute, this would represent an annual travel time savings of approximately 2.0 million dollars in 1985. Discounting travel time loss to non-users (discussed under disbenefits), net system saving is estimated at 1.3 million dollars.
- . 1985 auto diversions are estimated at 940 per weekday.

Disbenefits

- . It is estimated that approximately 12,170 of the 15,600 daily users (78%) would be due to bus ridership diversions. This represents a decrease in total NYC bus corridor ridership of approximately 28%. The most adverse direct impact would be on those long-haul operations that are currently profit-making e.g. Short Lines. There would be a corresponding adverse impact to bus drivers and other bus company personnel.
- . An average time loss of less than one minute for Hoboken Division rail riders continuing to use Hoboken as a destination. Projected patronage is approximately 10,300 daily round trip riders in 1985. Assuming that bus service would be decreased due to the large number of diversions, it is estimated that remaining bus riders would also lose less than one minute per trip. It is estimated that there would be approximately 30,700 daily round trip bus riders to NYC remaining in 1985 who would not switch to the rail mode. The aggregate result is that it is estimated that the average time loss to "non-users" (rail & bus) would be approximately 0.5 minutes per trip. This would be equivalent to

approximately 0.7 million dollars per year on the basis of a time value of 6 cents per minute.

Project Status

Technical Study, "Trans-Hudson Rail Operations Planning and Market Analysis" (IT-09-0037/69) to be completed in the Spring of 1979.

Primary Data Sources

- Preliminary data from the "Trans-Hudson Rail Operations Planning and Market Analysis" study (IT-09-0037/69) to be completed in the Spring of 1979.

PATCO Core Plan

Project Cost - \$349.3-million

Description

The first stage of the PATCO expansion program, recommended in the DRPA "Mass Transportation Development Program," December, 1975, which would culminate in the completion of extensions to Mount Laurel and Glassboro. The Core Plan consists of: a 3 mile extension from Broadway Station in Camden to a Crescent Blvd. Station in Pennsauken (first stage of a Mt. Laurel extension) including a walk-on station at Westfield Avenue; a 2.4 mile extension from Division Street in Camden to a Morgan Blvd. Station in Camden (first stage of a Glassboro extension); interior terminal facilities; requirements for 3-branch operation and; 48 new cars.

Benefits

- Estimated 1978 daily patronage of approximately 8,500 round trip riders added (not line volume) to the PATCO system (1985 projections not available).
- Reduced travel time for extension riders.
- More comfortable and convenient trip.
- Reduced Vehicle Miles Travelled due to shorter station access and auto diversions.
- Permit more efficient feeder operation. At present, numerous PATCO "feeder" routes continue to Philadelphia due primarily to PATCO capacity constraints.

Disbenefits

- Estimated that associated feeder bus service orientation would increase the annual bus subsidy by approximately \$229,000.

Project Status

DRPA PATCO expansion alternatives analysis study in progress.

Primary Data Sources

- Final Report, "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009), December, 1975.

PATCO Extension to Mt. Laurel

Project Cost - \$572.8-million

Description

A 14.4 mile extension of the Lindenwold High-Speed Line from the existing Broadway Station in Camden to Mt. Laurel. Alignment would be along existing rail right-of-way to the vicinity of Maple Shade and on new right-of-way to Mt. Laurel. Included in the project are nine stations, including four walk-ons, terminal facilities, requirements for two-branch operation and 61 new cars.

Benefits

- Estimated 1978 daily patronage of approximately 16,500 round trip riders added (not line volume) to the PATCO system (1985 projections not available).
- Reduced travel time for extension riders, both from the standpoint of reduced station access time for those presently using PATCO and bus vs. PATCO travel time for those currently using bus service to Philadelphia.
- More comfortable and convenient trip.
- Reduced Vehicle Miles Travelled due to shorter station access and auto diversions.
- Permit more efficient feeder bus operation. At present, numerous PATCO "feeder" routes continue on to Philadelphia due primarily to PATCO capacity restraints.

Disbenefits

- Estimated that associated feeder bus service orientation would increase the annual bus subsidy by approximately \$490,000.

Project Status

DPRA PATCO expansion alternative analysis study in progress.

Primary Data Sources

- Final Report, "Mass Transportation Development Program of the Delaware River Port Authority" (IT-09-0009), December, 1975.

PATCO Extension to Glassboro

Project Cost - \$665.2-million

Description

A 18.5 mile extension of the Lindenwold High-Speed Line from Division Street in Camden to Glassboro. Alignment would be along existing Seashore Division right-of-way to the vicinity of Morgan Blvd., adjacent to N.J. Route 42 to vicinity of the Turnpike, in the median of proposed N.J. Route 55 to the vicinity of Pitman and along Seashore Division right-of-way to Glassboro. The project would include eight stations including one walk-on, terminal facilities, requirements for 2-branch operation and 60 new cars.

Benefits

- . Estimated 1978 daily patronage of approximately 18,200 round trip riders added (not line volume) to the PATCO system (1985 projections not available).
- . Reduced travel time for extension riders, both from the standpoint of reduced station access time for those presently using PATCO and bus vs. PATCO travel time for those currently using bus service to Philadelphia.
- . More comfortable and convenient trip.
- . Reduced Vehicle Miles Travelled due to shorter station access and auto diversions.
- . Permit more efficient feeder bus operation. At present, numerous PATCO "feeder" routes continue on to Philadelphia due primarily to PATCO capacity restraints. It is estimated that the annual bus subsidy would be reduced by approximately \$14,000.

Disbenefits

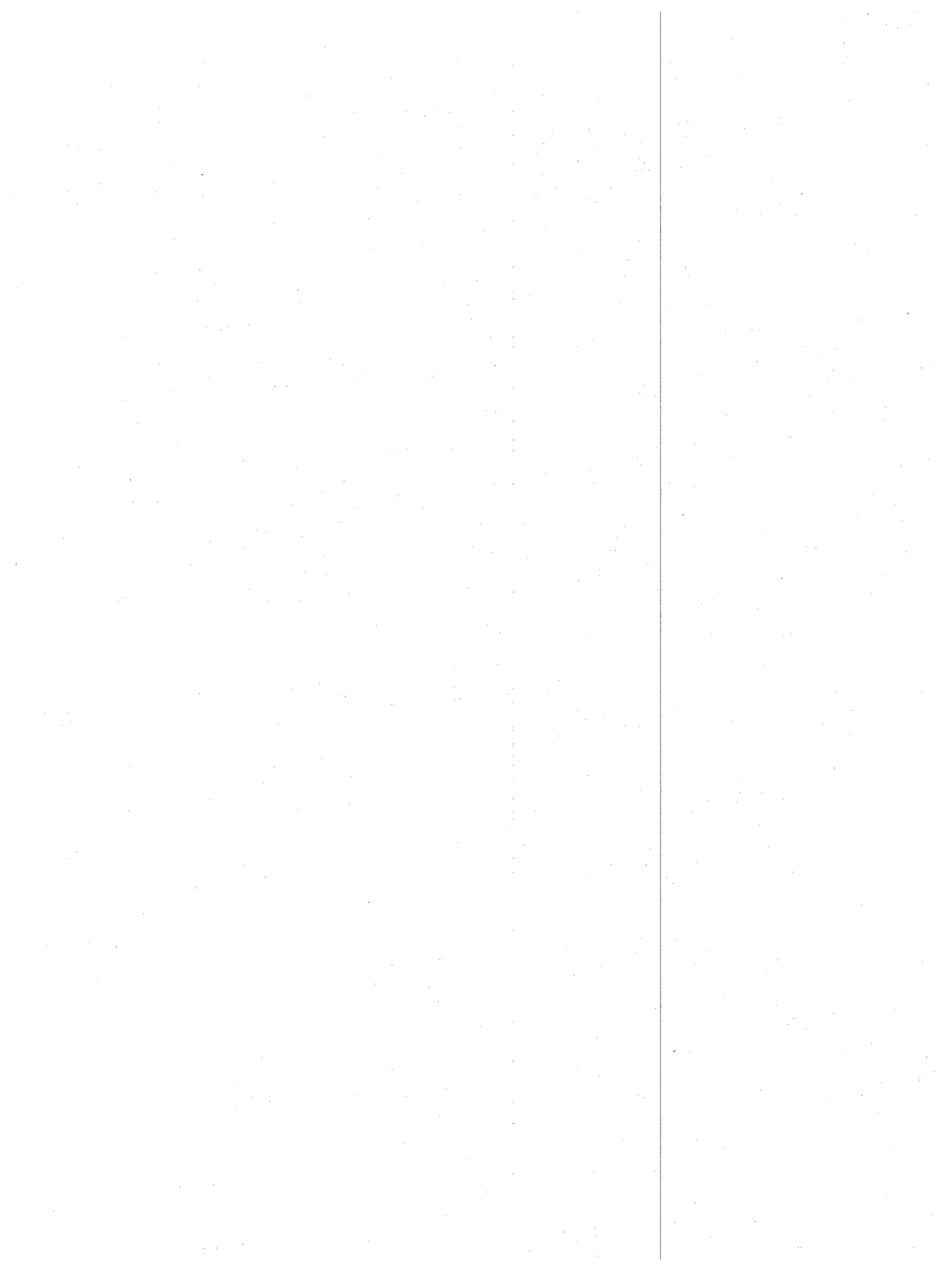
- . No significant disbenefits identified.

Project Status

DRPA PATCO expansion alternatives analysis study in progress.

APPENDIX B

**Projects Not Formally Evaluated
Due to Lack of Development**



This appendix presents projects that were identified and considered but which were not formally carried through the ranking step, since it was recognized in the Transpac development process that the projects required substantial development. Included are conceptual projects suggested by sources both within and external to NJDOT since the initiation of the Transpac development process. All projects can be considered "C" ranked projects on that basis. It should be noted that none of these projects would fall into priority group I, i.e., are not "critical" in nature. As in the case of projects that were formally ranked and subsequently designated "C", they should be reevaluated as they are developed, as part of an ongoing planning programming process.

Bus and Rail Maintenance Facilities

Project Cost - Undetermined

Description

New and/or improved facilities.

Benefits

- . Quantifiable benefits not available.

Disbenefits

- . Quantifiable disbenefits not available, however no significant disbenefits are anticipated.

Project Status

- . Both bus and rail facilities are currently the subject of technical feasibility studies. It is recognized that results of these studies may reveal deficiencies that would be considered of a critical nature, i.e. non-attendance to them in short term would lead to serious deterioration of the State's investment in new and rehabilitated rolling stock and/or in the quality of service provided. Preliminary data from these studies are currently being reviewed. When final recommendations are made, the State's Capital Program should be reexamined at that time to determine if a project for improving these facilities should be included.

Primary Data Sources

- . NJDOT Bureau of Transit Planning, August, 1978.

Atlantic City Transportation Center

Project Cost - Undetermined

Description

The project concept could include the following transit/non-transit

facilities: Interface/transfer point between buses, taxis, limousines and private autos in order to connect to other transportation modes including rail, air and marine travel (one or more of which could likewise be physically located at the center); visitor information and tourist bureau; office space; retail/commercial space; parking; hotel reception facilities and; a people mover system connecting casinos with each other and to the transportation center.

Benefits

- . Quantifiable benefits not available.

Disbenefits

- . Quantifiable disbenefits not available.

Project Status

A 12-month feasibility study was initiated in April, 1979.

Primary Data Sources

- . NJDOT Bureau of Urban Transportation Planning, August, 1978.

Orange Street Transfer

Project Cost - Not Available

Description

Construction of a transfer facility between the Newark City Subway and the Hoboken Division Morristown Line at the location of the subway's existing Orange Street Station.

Benefits

- . Quantifiable benefits not available.

Disbenefits

- . Quantifiable disbenefits not available.

Project Status

At the present time this project has not been developed sufficiently to permit evaluation.

Primary Data Sources

- . NJDOT Bureau of Transit Planning, September, 1978.

West Shore Rail Service

Project Cost - Not available

Description

Reinstitution of rail passenger service along the existing West Shore rail right-of-way between West Haverstraw, N.Y. and Hoboken, N.J. Approximately 18.8 miles of the West Shore line are within New Jersey. There would be 9 stations within New Jersey. It is estimated that approximately 75 coaches and 7 locomotives would be required to operate the service.

Benefits

- . Quantifiable benefits not currently available.

Disbenefits

- . Quantifiable disbenefits not currently available.

Project Status

A final draft report for Phase A of the "West Shore Corridor Alternatives" (IT-09-0058/NY-09-0046) technical study has been completed. It is anticipated that public meetings on the Phase A report will be held and a maximum of three of the alternatives studied in Phase A selected for final detailed analysis by July, 1979. Alternatives studied in Phase A were: TSM type bus improvements; suburban rail west of the Palisades; suburban rail east of the Palisades; rapid rail to Journal Square; light rail through the Lincoln Tunnel and; an exclusive busway.

Primary Data Sources

- . NJDOT Bureau of Transit Planning, September, 1978.

Newark City Subway - Springfield Avenue Extension

Project Cost - Estimated cost in 1978 dollars of \$192-million (based on 1972 estimate)

Description

Construction of a 3.8 mile underground extension of the existing Newark City Subway from Penn Station to the Irvington Bus Terminal primarily along the right-of-way of Springfield Avenue. Seven new underground stations would be built at intervals of approximately one-half a mile. Twenty-five Standard Light Rail Vehicles would also be acquired. It should be noted that the estimated cost is in terms of 1978 cost, not implementation cost which would be considerably higher. 1978 cost was obtained by inflating the '72 estimate at 8% per year, and is for order of magnitude reference purposes only. The estimate also assumes cut and cover construction in crossing the Garden State Parkway, tunneling would increase the 1978 cost by approximately \$10.3 million.

Benefits

- . Estimated that there would be a base patronage of 29,000 daily trips in 1972, consisting of 26,600 bus diversions and 2,400 auto diversions.

Was also estimated that there could be a potential of 2,500 additional trips due to latent demand and an additional 4,000 trips due to fare-induced intra CBD patronage (presently walk). This would yield a maximum possible patronage of 35,500 daily trips.

- Estimated travel time between Irvington Bus Terminal and Penn Station of 9.80 minutes at a speed of 22.5 mph as compared to 26 minutes at 8.5 mph for bus and 16 minutes at 14 mph for private automobile.
- Higher level of service/amenities for users.

Disbenefits

- Quantifiable disbenefits not identified per se, however, see following discussion of project status.

Project Status

"Newark Transportation and Growth" (IT -09-1104) by the Newark Division of City Planning and Parsons, Brinckerhoff, Quade and Douglas, March, 1974 final report completed. The following points concerning the proposed project should be noted:

- Patronage projections for the extension were based on data prior to the 1972 bus strike. Data was not subsequently adjusted. Considering that approximately 92% of the base patronage was assumed to be derived from bus diversions, this factor could be significant. For example, Newark subway patronage was in excess of 15,500 daily trips prior to the strike. Current patronage is estimated at approximately 9,200 daily trips.
- Based on the then current Newark subway operating experience, the study report indicates that the extension would be profitable (approximately a net profit of at least \$1 million with maximum patronage). Based on current PUC reports, this appears overly optimistic.
- Capital cost estimates should be revised. Since the time of the original estimates, "real cost" increases have occurred in addition to inflationary ones. Therefore, application of simple inflation factors would be misleading.
- The extension would completely replace bus service on that portion of Springfield Avenue. Although these diversions may in fact be desirable, the issue of impact on bus service/operators should be addressed. The Topic was not treated in the report.

Based on the preceding discussion, it is not believed that the project can be adequately evaluated at this time. However, it should be noted that due to very high cost and in that the project is a "new start" for the replacement of an existing service rather than for satisfying a market without a transit option, the project could not be included within the financial con-

straints of Transpac at this time regardless of whether it were formally ranked.

Primary Data Sources

- "Newark Transportation and Growth" (IT-09-0014) by the Newark Division of City Planning and Parsons, Brinckerhoff, Quade and Douglas, final report March, 1974.

Bus and Rail Park and Ride Facilities

Project Cost - Undetermined

Description

This project involves the provision of bus and rail park and ride facilities at various locations throughout the State. Numerous suggestions for development of specific sites have been advanced by various sources. However, detailed analysis and the development of an overall Statewide park-and-ride program still requires formulation.

Benefits

- Promotion of use of the State's bus and rail lines.
- Reductions in vehicle miles travelled, air pollution and use of energy.

Project Status

The State has recently established a special task force to develop a Statewide program for improving park and ride facilities. Once the program is finalized analysis of specific sites with accompanying recommendations can be made.

Primary Data Sources

- Preliminary recommendations for a Statewide public transportation capital improvement program by the County Transportation Association, September 1978.
- NJDOT Staff
- County transportation plans and inputs.

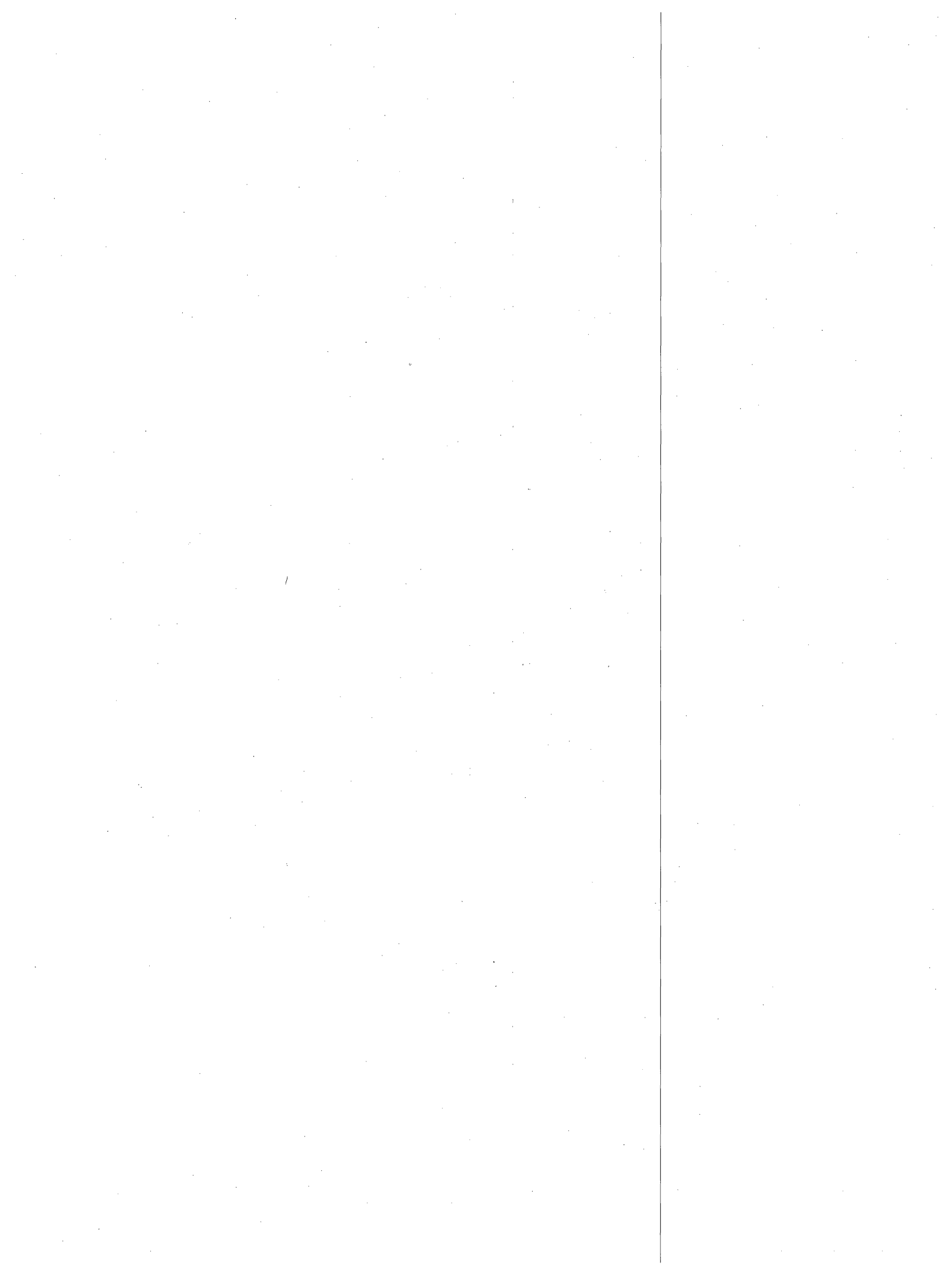
Other Conceptual Stage Projects With Insufficient Data to Permit Evaluation at this Time

- Bus Marshalling Facility South of Jersey City
- Two-way Radios for Transit Buses, Statewide
- Exact Fare Box Central Handling Facility

- . Bus Terminals or Intermodal Transportation Centers for Newark, Paterson, Plainfield, Woodbury, Deptford Township, Asbury Park, Elizabeth, New Brunswick
- . Light Rail Transit for the Following Corridors:
 - Paterson to Newark
 - Paterson-Passaic-Hackensack Meadowlands
 - Paterson-Hackensack-Hackensack Meadowlands
- . Willowbrook Mall Personal Rapid Transit System
- . Transit Centers For Passaic and Willowbrook Mall
- . Rehabilitate Piermont Branch to connect Pascack Valley Line to Main Line in Rockland County
- . Hackensack Bus Station Improvements
- . Railroad Bridge Rehabilitation

APPENDIX C

Methodology and Criteria for Ranking Capital Projects in the Development of Transpac



CONTENTS

	<u>Page</u>
. Summary	C - 1
. Short-Range Transit Improvement Program Development Policies	C - 1
. "Long Range" Transit System Goals Policies	C - 2
. Influence and Consideration of Policy Related Factors	C - 2
. Discussion of Project Categories	C - 3
. Refinement Process for Final Project Ranking	C - 8
. Project Cost Determination	C - 9
. Typical Project Benefit/Disbenefit Measures	C - 9
. Cost/Benefit Relationships/Indicators	C - 10

Summary

This paper presents a suggested systematic approach for ranking capital projects in the development of the State's 600 million dollar UMTA funded transit program package, or "Transpac." The following is an outline of the successive elements composing the approach:

1. Establish short-range transit improvement program development policies that can be related to both broad areas of project priority by type of project (maintenance and rehabilitation, increased flexibility, e.g. interconnections, and new starts) and ranking within the same project priority.
2. Based on the short-range improvement program development policies, establish an order of project priorities. Group proposed transit capital projects accordingly.
3. Rank projects within categories, guided by:
 - a. Short-range improvement program development policies.
 - b. Objective measures of project benefit, disbenefit and benefit/cost as applicable and available. Although quantifiable data is preferred for comparative purposes, the importance of non-quantifiable benefits is recognized and would be considered when significant and substantiated.
 - c. Consideration of any benefits or justifications unique to a specific project that would warrant a high priority. This would include consideration of "long-range" transit policies which would be established.
4. Refine the overall ranking of candidate projects, as determined by the priority approach, to arrive at a final project ranking list. This process would take into account overall application of benefit and cost implications and policy related considerations.

Short-Range Transit Improvement Program Development Policies

1. Preserve and maintain (as justified) services, equipment and facilities of the existing bus and rail systems.
2. Improve those services first which will have the greatest immediate real benefit at the most reasonable costs.
3. Construct those projects first that are justified, committed and can be implemented in the shortest period of time and can be accommodated within budgetary constraints.

"Long-Range" Transit System Goals Policies

1. To provide stimulus to urban center commercial, industrial and residential redevelopment.
2. To effect major auto diversion within a travel corridor and reduce adverse impacts on the natural environment.
3. To encourage and support development of efficient land use patterns.
4. To assist the mobility needs of those without access to automobiles.
5. To maintain the State's status as a residential base to the commercial centers of New York and Philadelphia.
6. To increase safety, convenience and comfort of travel.
7. To reduce travel time and cost per trip.
8. To be realistic in terms of physical, social, financial and environmental constraints.

Influence and Consideration of Policy Related Factors

Within the evaluation process, there are factors potentially impacting project rank that basically apply to all projects under consideration. Therefore, they are discussed at this point for emphasis and to avoid redundancy in the remainder of this paper. They apply to both priority category and refined overall ranking.

First, projects which will directly and significantly contribute to the attainment of one or more of the "long-range" policy objectives should be given close attention and appropriate weight in the evaluation process. This does not imply that all such projects should necessarily be included in the refined program of projects. Budgetary constraints, overall project worth and cost effectiveness, etc. cannot be ignored. However, conversely, these policy objective type benefits are too often completely ignored in project evaluation. As a particular example, a project that would contribute to significant urban area economic stimulus, i.e., an "external" benefit of the project, might validly be justified for inclusion in the capital program. Whereas, if only the projects "internal" benefits were considered, it might not appear relatively beneficial enough for inclusion. Naturally, it is assumed that the project is realistic in its own right.

Second, most elements of the short-range program development policies have been directly translated into the project priorities themselves. Implicitly, the status of project development while not influencing a project's "absolute" worth in terms of costs vs. benefits or its project priority category, can be significant in determining its viability within the program time frame and, therefore, needs be considered, weighed and applied as appropriate within the ranking process. The status of project development refers to both level of current commitment and length of time required

to initiate implementation if desired. Representative levels would include:

- Final application on file with UMTA
- Pre-application on file with UMTA
- Required planning/studies initiated
- Conceptual stage

It is recognized that required lead times would vary according to type and magnitude of the project.

Discussion of Project Priorities

The following is a summary of the project priorities that were developed, highest priority being first.

- I. Projects required for the continuance of essential services at current levels of service.
- II. Projects mandated by State and/or Federal laws and regulations. 1.
- III. Projects required to complete capital improvement efforts that have been initiated, e.g., cost increases due to inflation.
- IV. Low cost user oriented projects.
- V. Low cost operations oriented projects.
- VI. Moderate cost projects of significant benefit.
- VII. High cost projects of highly significant benefit.

This section presents the following information for each of the proposed capital project priorities:

1. A brief definition of the priority elaborating on its classification title.
 2. Examples of the types of projects that could be expected to be included within the priority. It should be noted that the lists of examples are not intended to be exhaustive.
 3. A brief discussion of the types and level of detail of various criteria and measures that are considered applicable for use in the project justification/ranking process. However, it should be noted that the discussions are general guides. The availability and applicability of both hard and soft data will likely vary according to specific projects. Therefore, judgement will be necessary.
1. This priority category does not appear in the body of this report, since all applicable projects identified were being funded through sources external to Transpac.

As previously discussed, consideration of short-range program development policies should be addressed in all cases while "long-range" objectives will likely have substantial potential impact only in the "moderate" to "high" cost priority range (VI & VII).

I. Project(s) required for the continuance of essential transit services at current levels of service

Definition - Projects that if not implemented in the immediate short term would result in pronounced to drastic deterioration of the service, culminating in its cessation in the extreme case. This priority would include projects required to provide for realistic short-term patronage demand increases, if considered critical to maintaining a reasonable level of service.

Project type examples

- Replacement of rail or bus rolling stock presently in advanced states of deterioration, or approaching end of normal life.
- Rail track/roadway, structures and wayside facilities rehabilitations of critical nature.
- Major support facilities, e.g., maintenance facilities upgrade or replacement, if vital to service continuance.
- Station/terminal/parking upgrading, including required expansions or additions, if essential.
- Additional rolling stock if critical to maintaining level of service.

Criteria/Measures for project justification/ranking -

It would appear that projects falling within this category would not have to compete for inclusion in a capital program per se. However, representative measures of project justification should be addressed to the degree data is available. Patronage levels impacted (including captive/dependent riders if known) and related adverse impacts (probably in generalized terms unless hard data available) such as VMT/energy/pollution, would be included. Benefit measures which are applicable, and are either available directly or can be reasonably expeditiously calculated from related available project data, would vary depending on specific project type; e.g., rolling stock purchase vs. new facilities construction.

Measures of the state of the service, necessitating the improvement(s), would in all likelihood be self-evident and documentable in most cases. For example: Age of rolling stock, severely deteriorated track/roadbed with attendant slow orders; bridges or other structures officially declared unsafe; etc. It is recognized that within a project to "save" a service, it may be considered desirable to include elements that go beyond satisfying basic requirements; i.e., aimed at improving the service rather than maintaining it,

for purposes of economy of scale or because the additional improvements had previously been considered desirable in their own right. However, if the additional cost involved is substantial, those additional elements should be justified for inclusion within their appropriate project priority category, not automatically included within this one. Naturally, if a lower than normal cost for the additional elements was anticipated through overall economy of scale, the factor would work to the project's advantage within the priority category in which it was judged as to ranking. This would also be true for succeeding project priorities.

II. Projects mandated by Federal or State Laws and Regulations

Definition - Projects necessary for inclusion regardless of absolute cost/benefit measures, due to prevailing federal and/or state requirements. This does not imply that projects within this category are necessarily of marginal value, only that "measurable" benefits are of secondary consideration per se.

Project type examples -

- . EPA and DEP mandated projects.
- . F.R.A. requirements.
- . Northeast Corridor requirements.

Criteria/Measures for project justification/ranking -

Due to the nature of the project category, justification of projects would not be required per se, as long as projects were not in excess (total dollar value) of the mandated requirement. However, if more proposed projects are available than required to meet the mandate, basic benefit measures should be obtained to facilitate project ranking.

III. Project(s) required to complete capital improvement efforts already begun

Definition - Refers only to the successful completion of the specific initial project specified; i.e., does not include "add-on" improvements above and beyond the original project's intent.

Project type examples -

- . Cost increases in the project's original budget due to inflation.
- . Additional cost due to essential expansion of the original project's scope to accommodate unforeseen factors, disregard of which would render the project less effective.

Criteria/Measures for project justification/ranking -

Since these projects have been fully developed, justification and presentation of key benefit measures should be straightforward, using existing sources.

IV. Low-cost user oriented projects -

Definition - Projects ranging from provision of amenities through passenger oriented TSM type projects.

Project type examples -

- . Terminal Improvements
- . Park-and-Ride Facilities

Criteria/Measures for project justification/ranking -

Use hard data as available. However, for small projects, it is likely that only patronage/user data would be available. Also, in the case of amenities type projects, it is likely that benefits would be less quantifiable, requiring more reliance on judgmental factors.

V. "Low" cost operations oriented projects -

Definition - Projects essential for improved level of operating efficiency and/or would produce significant operational cost reductions.

Project type examples -

- . Fare collection/security improvements
- . Automatic passenger data acquisition capability
- . Maintenance facilities improvements

Criteria/Measures for project justification/ranking -

Concentration on monetary aspects when appropriate. Use of user data for general comparisons. Consideration of any appropriate user benefits. However, it appears that the benefits involved may often be in the realm of unique ones that would have to be treated more or less judgmentally rather than from a hard data approach.

VI. Moderate cost projects of significant benefit -

Definition - Projects aimed at achieving the highest level of service commensurate with demonstrated need, including projected short-term demand increases, within the context of an existing service (or adjunct to a bus system).

Project type examples -

- . Additional rolling stock for increased frequency.

- New or improved facilities, including support facilities and transportation centers/terminals of moderate cost.
- Rail connections.

Criteria/Measures for project justification/ranking -

For projects which have had a high degree of development to date, all available, relevant and especially directly comparable benefit/disbenefit data should be utilized. For projects not so developed, it will most likely be possible to develop only basic indicators, which probably would be expected-patronage related. However, the fact that they have not been developed to any degree as yet would tend to indicate that they would be of a lower priority. Within this category, non-user as well as user benefits should be considered, as applicable. Special consideration should be given to those projects which are indicated as resulting in significant social/economic benefit for the area in question.

VII. "High" cost projects of significant benefit -

Definition - Projects involving major modifications to an existing service and major "new start" rail service.

Project type examples -

- Extensions to existing rail lines (rapid or commuter) including branch lines.
- New rail services (light, rapid or commuter) either independent of or complementing existing services, e.g., light rail feeding rapid rail as well as providing service in its own right.
- Major modifications to an existing rail service to permit higher performance equipment, superior motive power, joint use with a complementary but presently inaccessible service due to lack of physical connection and/or other considerations.
- Major fixed user or operational facilities.

Criteria/Measures for project justification/ranking -

For projects which have had a high degree of development to date, all available, relevant and especially directly comparable benefit/disbenefit data should be utilized. For projects not so developed, it will most likely be possible to develop only basic indicators, which probably would be expected patronage related. However, by the fact that they have not been developed to any degree as yet would tend to indicate that they would be of a lower priority. Within this category, non-user as well as user benefits should be considered, as applicable. Special consideration should be given to those projects which are indicated as resulting in significant social/economic benefit for the area in question.

Refinement Process for Final Project Ranking

A priority category approach was incorporated into the program development process for the following basic reasons:

1. To reflect the previously described short-range program development policies.
2. To help alleviate some of the problems associated with attempting to directly compare/rank projects of dissimilar nature. For example, trying to rank a project designed to reduce operating costs with one dealing with passenger amenities on a strict "numerical" cost/benefit type basis would be difficult and time consuming at best and produce misleading or meaningless values at worst.
3. To make the handling and ranking of a large volume of projects more manageable.

However, although ranking projects within categories is considered to be a logical and an important step in the project selection process, it is not intended to be the final one. At this point, a refined overall ranking of projects must be accomplished on a somewhat judgmental but objectively defensible basis. Reasons why this process is necessary, and points to be considered in it, are as follows:

1. Although the project priority categories define types of projects fairly well, the questions of which of two adjacent categories should be of higher rank and whether the relative ranks could vary depending upon specific circumstance, are not always as clear. In practice, it is likely that the absolute relative merits of the specific projects involved rather than the category itself could at times be the determining factor.
2. A project may exhibit a degree of overlap; i.e., have aspects that relate to more than one category.
3. A given project may exhibit a range and/or magnitude of direct transit benefits that are obviously and significantly superior to one or more projects in a higher category(s), even if the higher category would normally be considered of higher ranking as such.
4. Similar to the preceding item, a project may contribute to one or more of the previously listed "long-range" policy objectives or satisfy program development policy(s) significantly enough to warrant a high or higher ranking.
5. The previously discussed "non-cost/benefit" factors apply to overall final ranking, depending upon level of significance.

Project Cost Determination

Total Project Cost -

Base level cost for comparative purposes - For purposes of direct comparison among projects, all projects should be costed in terms of a base year; i.e., cost of the project if it could be constructed in zero-time within a specified year.

Construction period costs for programming - It is assumed that the 600 million dollars available for the program package is in terms of absolute dollars available regardless of time frame for construction. Therefore, assumptions concerning years of construction will have to be made and inflation factors applied as appropriate (a number of projects should currently have available cost estimates that would "fit" with little or no modification) to arrive at project costs, and by inference a capital program that realistically "adds up" properly to available funds.

Typical Project Benefit/Disbenefit Measures

The following is a discussion of benefit and related disbenefit measures that appear to be applicable within this project evaluation process. Not all measures are necessarily applicable to or obtainable for all projects that may be considered, nor for all projects within a given project priority category.

1. Patronage - Patronage served by a project is in itself commonly used as an indicator of benefit. However, the following points need be considered:
 - a. Existing Ridership - Total existing ridership of a service can be shown as reflecting "benefit" only if all riders actually receive the benefit. If the improvement positively impacts only a portion of total ridership, only that portion should be so indicated. Conversely, if the improvement actually adversely impacts a portion of the ridership to a meaningful degree, the disbenefit should be noted and taken into account to arrive at a net "benefited" patronage.
 - b. New or added Ridership - All new riders would be counted. However, if a substantial number of new riders are a result of diversion from other existing transit modes/services an additional benefit or a disbenefit could result, depending on the circumstances, due to impacts on the transit service they switched from. If significant, this should be explored and taken into account if at all possible.
 - c. Elderly, Handicapped and Transit dependents - Benefits accruing to these groups through service improvements, either through projects aimed directly at the groups or if a significant number are benefited through spinoff from a "general public" oriented project, generally are given added weight in project justification/ranking.
2. Operating Cost/Revenue Impacts - For improvement projects geared toward reducing operating costs and/or increasing revenue, these factors

obviously would be explicitly indicated. For other projects they should be included if their impact, either as a benefit or disbenefit, is significant. As in the case of "patronage", impacts on other transit services should likewise be taken into consideration if impact is substantial.

3. Passenger time savings - Data probably would be available only for projects intended to produce this result or in large projects where this would be a prime consideration along with other factors in determining project justification. Would normally be expressed in terms of average savings per user or converted to dollars on an annual basis. As in the preceding discussions, time disbenefits should also be considered if a portion of existing riders or other services are adversely impacted.
4. Auto Diversions, VMT Reductions, Energy and Pollution Reductions-With the exception of auto diversions, it is most difficult to quantify these benefits. Since they are basically related, although not on a directly proportional basis, it is recommended that only auto diversions be considered. Also, for projects where significant ridership gains are not anticipated, auto diversions would likewise be small and can be ignored. For large projects with high new-rider projections, it would appear that it would be beneficial to include auto diversion estimates as one benefit measure to aid in the evaluation process. For projects ranking very closely in other respects, auto diversion could become a deciding factor.
5. External Benefits - These would be benefits pertaining to non-users as such. For instance, they could include time savings to non-transit riders or economic benefits to an area, without a related benefit decrease elsewhere. Such factors should at least be considered in the selection process when they can be substantiated. It should be noted that significant external benefits could also fall within the scope of "long-range" policy considerations.
6. "Unique" Benefits - These are considered to encompass items such as passenger safety (accident reduction/prevention) and security. For projects not aimed at the items directly, "measurement" would be difficult or impossible. For projects that are geared toward them, an extreme example being emergency type rehabilitation of track structures that are unsafe, they are project justifications more than benefits. They could very well qualify the project as a high priority but not on the basis of comparing the "benefit" with other projects, as such, on the same "benefit" basis.

Cost/Benefit Relationships/Indicators

For purposes of the project ranking process, all cost/benefit type indicators utilized should be used judiciously and with caution. This is emphasized since the values obtained do not represent "overall" or "selected-variable" cost/benefit ratios per se. They only represent a cost/benefit type relationship for a selected benefit.

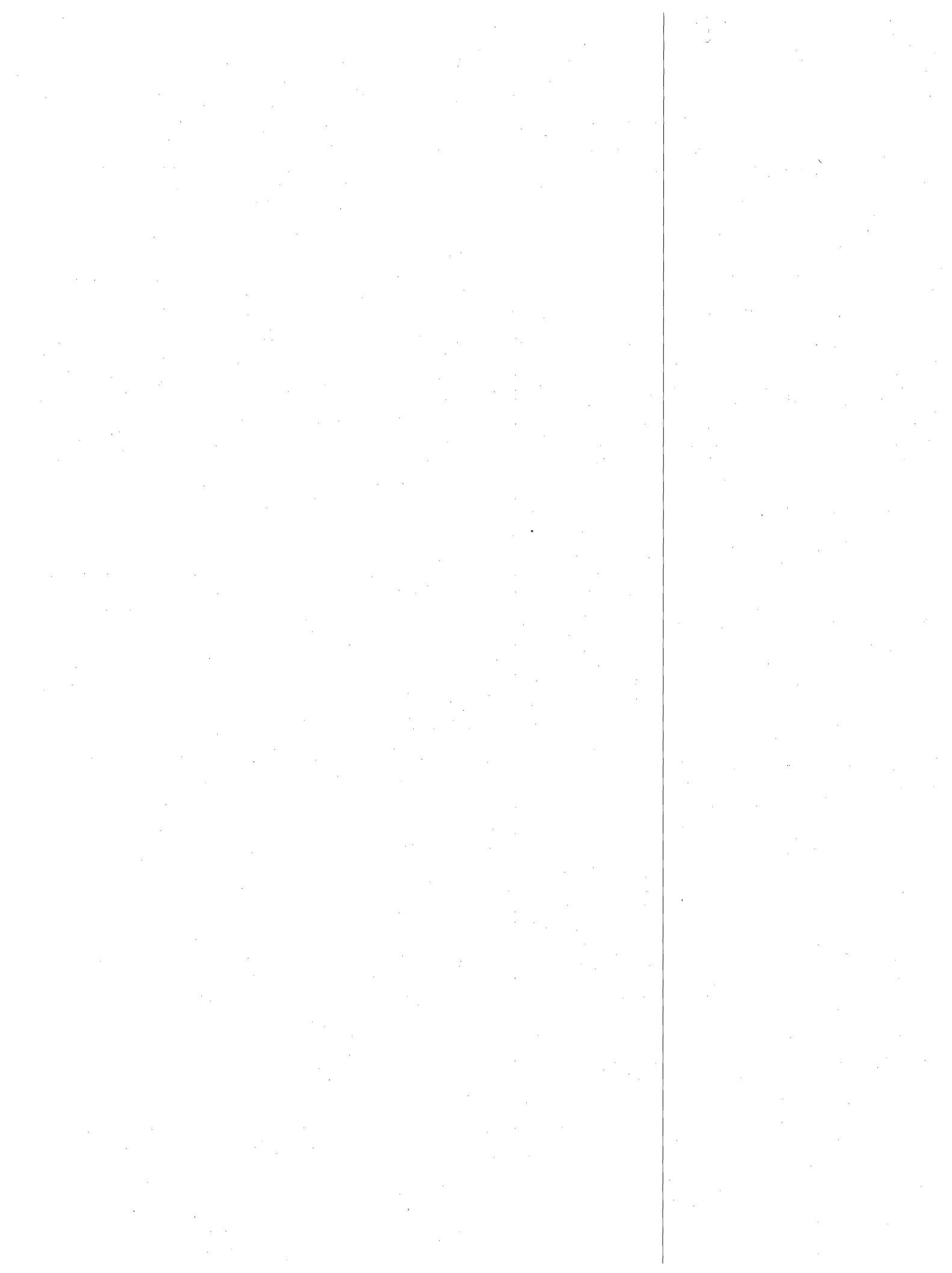
variable. True cost/benefit must obviously be expressed in terms of dollar per dollar, should include all relevant potential benefit variables, and are usually reliable for comparative purposes only when considering projects with similar purposes and scope. The preceding is beyond the scope of this evaluation/ranking process. However, despite their limitations the following indicators may prove helpful in comparing similar projects from the standpoint of obtaining a clearer picture of a particular related benefit to assist in the evaluation process; not of themselves being the process. Naturally, all indicators are not applicable to all projects.

1. Project cost per passenger - This is perhaps the most commonly used blanket cost/benefit indicator. It is also one of the most misleading and misinterpreted unless properly applied and its limitations understood. Foremost, it is more accurately a cost distribution or spread indicator. Of itself, it does not measure project worth; i.e., a project may be designed to serve a large number of riders but produce negligible benefit. Second, only riders benefiting from the project should be included in the passenger figure, e.g., a project designed to reduce travel time on a rail line that will impact 70% of the ridership should include only 70% of the ridership in the cost per passenger ratio. This example is obvious, however, in a number of instances the distinction is not as clear. The factor is most useful in comparing similar type projects having similar unit passenger benefits/disbenefits. In this case, the factor does approach being a meaningful relative cost/benefit indicator. At other times it should be looked upon as a cost spread indicator. The capital costs involved can naturally be expressed in total project cost or annualized cost as desired. Likewise, passengers can be shown on daily, annual, etc. basis as appropriate.
2. Project cost per passenger-mile - This factor is at times used to try to provide a means of "equalizing" inherent ridership volume differences between long and short-haul systems, in order to permit direct comparison. The assumption that trip length as well as total ridership should be used in the determination of system "importance" is valid. However, whether a directly proportional weighting should be used is subject to some debate. Comments in the preceding section apply. It should be noted that calculation of this factor can be difficult, depending on available data, since average trip lengths must be determined or estimated.
3. Project cost per seat-mile - This factor can be used to provide an indication of cost vs. level of service provided. It would have limited benefit in this exercise unless "policy" levels of service/headways became an important factor. As in the case of passenger-miles, seat-miles can be difficult to determine.
4. Annualized Capital Cost per Annual Savings - Annualized capital cost can be compared to any project benefit that can be expressed in dollars. For purposes of this evaluation, it is believed that the following three, alone or in combination, may be beneficial in certain instances: Annual passenger time savings expressed in dollars; annual operational cost

savings and; annual revenue increases. The factors can be used to provide comparative data among similar projects that are intended to produce one or more of the three types of "savings" indicated, in order to determine how well the projects satisfy those intentions. It is likely that required data would only be available in reasonable form for those specific projects having such an intent.

APPENDIX D

Explanation of Changes in Projects
Considered in the "Preliminary Recommendations
for the Transpac Program" Draft Report, March 1979



In the interest of clarity and timely production, this report has been prepared using the same basic format as the preceding "Preliminary Recommendations for the Transpac Program" draft report, dated March, 1979. For an individual not having read the draft report, this approach would present no problem. However, in that there have been a number of changes with respect to projects discussed, we believe that it is necessary to include this appendix, explaining those changes, for the benefit of those having read the draft.

Minor changes in project costs, descriptions and discussions are the result of project and data updates/development subsequent to the March, 1979 draft. A more detailed discussion will not be pursued in that regard. With respect to the more substantial alterations, the following paragraphs present explanatory material for projects affected in each of the priority groupings.

Priority I (Projects Required for the Continuance of Essential Services at Current - Levels of Service)

- . The preliminary recommendation to rehabilitate coaches for the North Jersey Coast Line was changed to provide for the purchase of new coaches. This decision was based on the following considerations:
 1. The existing coaches have end doors at only one end of the car. This is not an efficient arrangement for commuter operation. The new coaches will have center and end doors.
 2. The seating capacity of the new coaches will be higher than the existing coaches due to 3-2 seating. Required fleet size will therefore be reduced. This results in reduced maintenance cost and the shorter consists provide for greater efficiency.
 3. The acquisition of new cars will permit the incorporation of E & H features, including making progress toward full accessibility, in recognition of future Section 504 requirements.
 4. The new cars will provide a uniform/compatible fleet for the NJCL. The existing cars, purchased from a number of different rail properties, are of a mix-and-match variety. The cars will also be compatible with those to be purchased for the Raritan Valley, thereby drawing closer to the State's goal of flexibility throughout our rail system.
 5. Push-pull operating capability of the new cars will allow greater operational flexibility and efficiency.
 6. The new cars will enhance passenger comfort and provide a higher level of safety through design features and a more rapid egress capability provided by the additional doors.
- . The project for signal and communications improvements and bridge rehabilitations on the NJCL was not included in the preliminary

recommendations report. The need for these improvements became apparent during a reassessment of the NJCL, conducted subsequent to completion of the draft Transpac Report. It should be noted that the total amount of Transpac funding attributable to NJCL projects in this report is the same as the preliminary recommendations, i.e., the amount allotted for completion of the electrification project has been reduced. This subject is discussed in detail in the NJCL electrification project description, Appendix "A".

- . The project in the preliminary recommendations report for the rehabilitation of Brick Church and East Orange Viaducts/Stations does not appear in this report. The cost has been combined with the statewide project "Rail Station Restoration/Parking." This change was made since the New Jersey Rail Stations Modernization Study is now at the point where a statewide comprehensive and uniform program for station improvements is being developed and station improvements prioritized. Therefore it is appropriate that Brick Church and East Orange Stations be treated within the overall program. It should be noted that initial repairs to these stations are being done under the current Station Deferred Maintenance Program and further work will be included in the statewide program.

Priority II (Projects Required to Complete Capital Improvement Efforts That Have Been Initiated)

- . Transpac funding for the NJCL electrification project was significantly reduced as the result of a NJCL improvement program reassessment conducted by the Department. A detailed explanation is presented within the project discussion in Appendix "A".

Priority III (Low Cost User Oriented Projects)

- . The project formerly entitled "NJCL-Major Station Improvements" (basically high level platforms) has been deleted from the final report. It is included under the new Priority VI (High Cost) project, "Major Commuter Rail Station Improvements". It should be noted that the former NJCL project did not have an available cost estimate in the draft report and was not included in the preliminary Transpac recommendations. It should also be noted that although a specific cost has not been developed since that time, it is now apparent that it would put the project into the Priority V (Medium Cost) range.

Priority IV (Low Cost Operations Oriented Projects)

- . The scope of the project calling for long-haul bus radios on a statewide basis has been modified. Project development subsequent to the preliminary recommendations report has indicated that the project would not be technically feasible without a major investment in a significantly more sophisticated system than originally envisioned. It was therefore shifted from this priority group to Priority V (Moderate Cost). Order of magnitude cost would be in the \$20 million range.

The significant increase in estimated cost results in the project exceeding

the limits of Transpac funding. Therefore it can no longer be included in Transpac. Due to the impending Section 504 regulations and the possible added costs to the bus purchase for such items as wheelchair lifts, it has been decided to set aside the \$4.0 million originally dedicated to bus radios as a partial contingency fund for bus elderly and handicapped full accessibility. Low-cost localized radio systems may be considered after further study.

Priority V (Moderate Cost Projects of Significant Benefit)

- The project formerly entitled "Raritan Valley Upgrade-Phase III" (high level platforms) has been deleted from the final report. It is included under the new project "Major Commuter Rail Station Improvements." It should be noted that the original project was not recommended for inclusion in Transpac due to lower priority ranking.
- A candidate project calling for the purchase of 30 MU cars for NJCL Bay Head service, ie., would be diesel hauled in non-electric territory, has been deleted from the final report. Operational plans developed for the NJCL do not include this option. The project was not included in the preliminary recommendations due to its conceptual nature and pending development of the operating plan.

Priority VI (High Cost Projects of Highly Significant Benefit)

- One new project was added to the final report, "Major Commuter Rail Station Improvements." The purpose was to include all potential candidate stations, statewide, for discussion under a single project heading.

